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Compend of Diseases of the Skin

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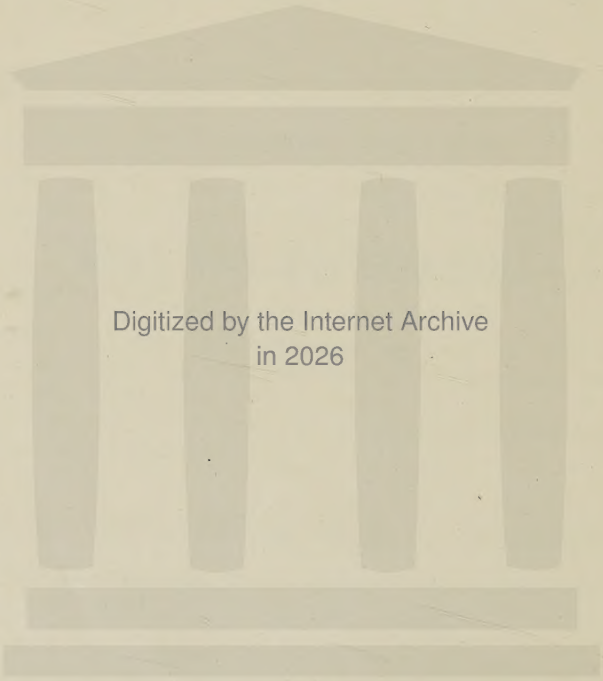
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BLAKISTON'S COMPENDS

A COMPEND

OF

DISEASES OF THE SKIN

BY

JAY FRANK SCHAMBERG, A. B., M. D.

PROFESSOR OF DERMATOLOGY AND SYPHILOLOGY GRADUATE SCHOOL OF MEDICINE, UNIVERSITY OF PENNSYLVANIA; FELLOW OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA; EX-PRESIDENT OF THE AMERICAN DERMATOLOGICAL ASSOCIATION, DIRECTOR OF THE RESEARCH INSTITUTE OF CUTANEOUS MEDICINE, PHILADELPHIA; CORRESPONDING MEMBER OF THE FRENCH, DANISH AND BRITISH DERMATOLOGICAL SOCIETIES AND MEMBER OF THE GERMAN DERMATOLOGICAL SOCIETY, ETC., ETC.

EIGHTH EDITION, REVISED AND ENLARGED
WITH 126 ILLUSTRATIONS

PHILADELPHIA
P. BLAKISTON'S SON & CO.
1012 WALNUT STREET

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PRINTED IN U. S. A.
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TO THE MEMORY OF

PROFESSOR LOUIS A. DUHRING

THIS LITTLE WORK IS DEDICATED, IN GRATEFUL ACKNOWLEDGMENT
OF HIS VALUABLE CONTRIBUTIONS TO DERMATOLOGY,
BY ONE WHO AMONG MANY OTHERS HAS
PROFITED BY HIS TEACHINGS

THE AUTHOR

PREFACE TO THE EIGHTH EDITION

The text of this little book has been revised and brought up to date. A brief review of the valuable treatment of syphilis of the central nervous system has been added as this now constitutes a well attested therapeutic procedure.

No material on new diseases has been introduced, as all important dermatoses are described, and it is not desired to materially expand the dimensions of the volume.

A number of the old and obsolete illustrations has been omitted, and these have been replaced by better and more modern photographs.

Jay Frank Schamberg.

Philadelphia
1402 Spruce St.

PREFACE TO THE FIRST EDITION

The little book herewith presented is designed for the use of practitioners and students, as a rapid reference work and key to the study of dermatology.

The effort has been made to present the subject of skin diseases in a succinct and at the same time lucid and readable form. Especial attention has been paid to the differential diagnosis and treatment of the more important affections.

The author has followed Duhring's classification in the presentation of the subject, although deviations in connection with one or two diseases occur.

The works of Crocker, Duhring, Hyde, Robinson, Brocq, Van Harlingen and others have been freely consulted in the preparation of this little volume.

JAY F. SCHAMBERG.

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DISEASES OF THE SKIN

EMBRYONIC DEVELOPMENT OF THE SKIN

The **corium** is derived from the superficial layer of the *mesoderm*, called the "skin plate." At the end of the fourth week the cutis is made up of embryonic corpuscles, which develop into spindle-shaped protoplasmic bodies between the second and third months. They are of fibromyxomatous nature. Blood-vessels are first formed at this time. The myxomatous tissue is replaced by a collagenous basic substance about the fifth month.

The **epidermis** is derived from the ectoderm. It is represented at the end of the first month by a single layer of epithelial cells upon the surface of the body.

The mucus layer takes on great activity from the 5th to the 8th month, and, through cellular growth, forms the cutaneous glands and hair.

ANATOMY OF THE SKIN

The skin may be said to be composed of three distinct layers: the epidermis, the corium, and the subcutaneous tissue.

The **epidermis** or cuticle consists of four layers:

(*a*) Stratum corneum.
(*b*) Stratum lucidum.
(*c*) Stratum granulosum.
(*d*) Stratum mucosum.

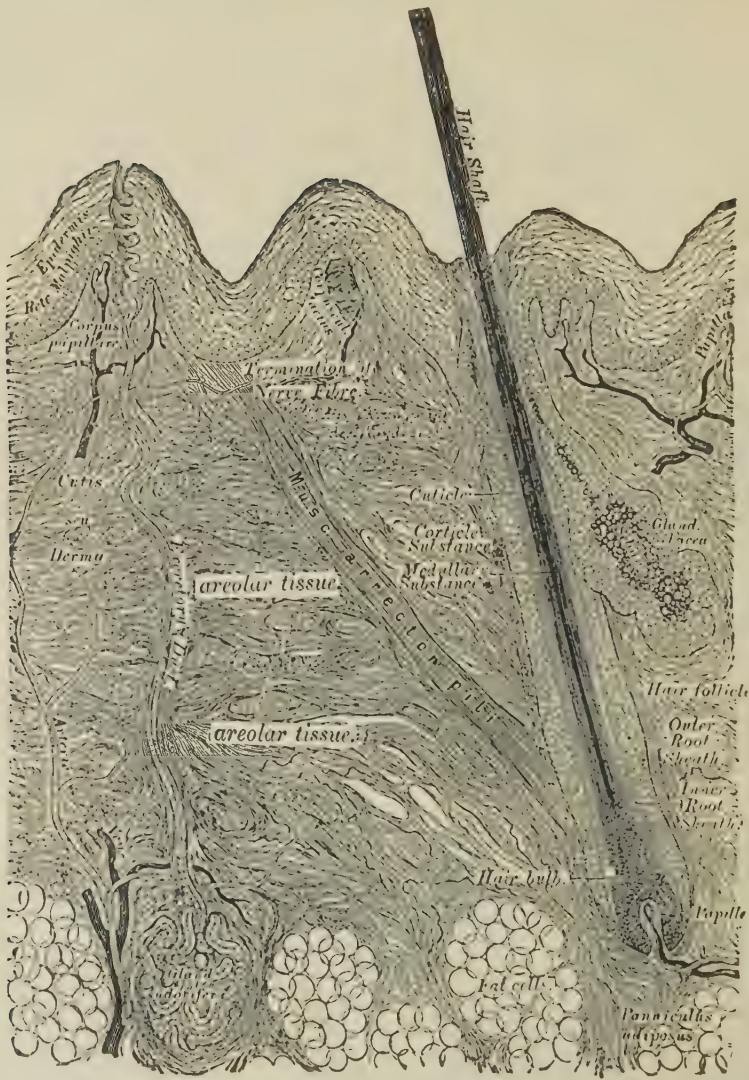


FIG. 1.—ANATOMY OF SKIN.—(*After Heitzman.*)

(*a*) The **stratum corneum** (horny layer) is made up of superimposed rows of elongated horny cells. This layer forms a protective surface for the softer strata beneath.

(*b*) The **stratum lucidum** (clear layer) consists of from two to four rows of bright, transparent, homogeneous, elongated cells. This layer is of minor importance, and is considered by many a part of the stratum corneum.

(*c*) The **stratum granulosum** (granular layer) is made up of several rows of flattened granular cells. These granules contain a substance called keratohyalin. An allied substance, eleidin, is also present.

(*d*) The **stratum mucosum** (mucous layer, rete Malpighii) is the deepest and the most important layer of the epidermis. The basal layer consists of columnar epithelial cells, which contain the skin pigment. These cells lie in contact with the papillæ of the corium. Above the columnar layer are irregular layers of polygonal nucleated cells with serrated borders (prickle cells). As the granular layer is approached, the cells become more fusiform in shape. There are no blood-vessels in the epidermis, but there exist intercellular spaces which contain a nutrient fluid.

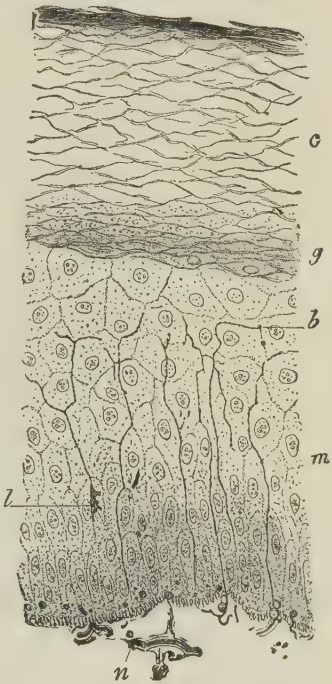


FIG. 2.—*c*. Horny layer. *g*. Granular layer. *m*. Mucous layer. *n*. Afferent nerve. *b*. Terminal nerve bulbs. *l*. Cell of Langerhans. (*After Ranvier*.)

The **corium** (derma, cutis vera) is a thick layer made up of white fibrous tissue interspersed here and there with yellow

elastic tissue. It contains blood-vessels, nerves, lymphatics, nerve-corpuscles, hair, sweat- and sebaceous-glands, muscle, and fat-cells. It consists of two layers:

(*a*) Pars papillaris (papillary layer).

(*b*) Pars reticularis (reticular layer).

(*a*) The **papillary layer** is made up of finger-like prominences which dovetail into the rete prolongations. The papillæ are supplied with blood-vessels, nerves, lymphatics, and nerve-corpuscles.

(*b*) The **reticular layer** is made up of loosely arranged bundles of connective tissue. This layer merges into the papillary layer without a line of demarcation.

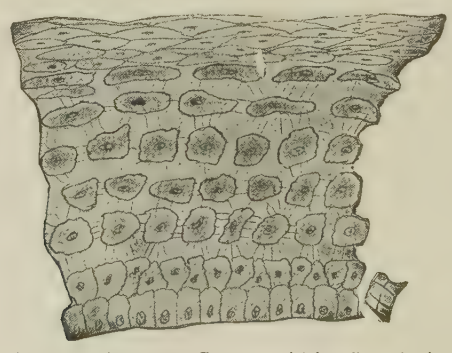


Fig. 3.—Prickle Cells.—(*After Ranvier.*)

The **subcutaneous tissue** (stratum subcutaneum) is made up of a loosely arranged network of connective tissue between the meshes of which are contained fat-globules (*panniculus adiposus*). The deeper hair-follicles and sweat-glands also find lodgment in this layer.

Blood-vessels.—Two horizontal plexuses exist in the skin,—a superficial and a deep one. The former occupies the papillary layer; the latter, the subcutaneous tissue. The deep plexus sends branches to the sweat- and sebaceous-glands and to the hair-follicles. The superficial plexus sends vessels to the papillæ, where capillary loops are formed.

Lymph-vessels.—There appear to be also superficial and deep lymph-plexuses in the skin, following in a general way

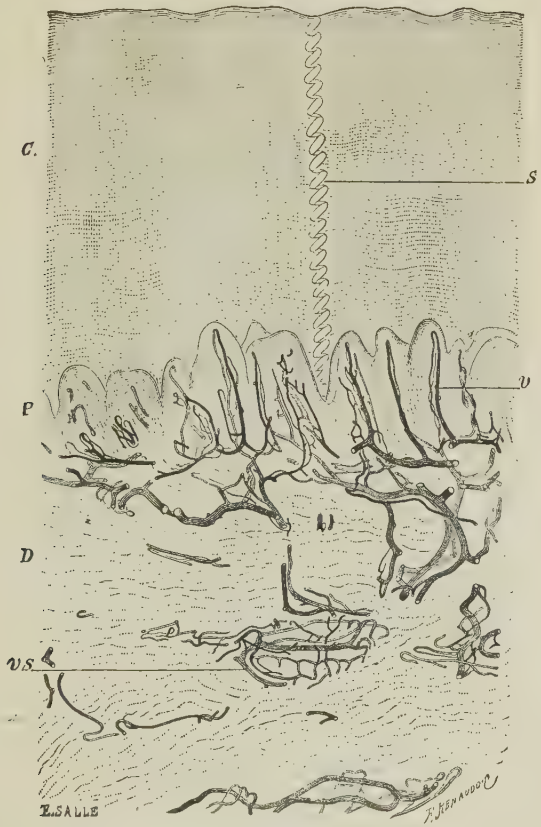


FIG. 4.—BLOOD-SUPPLY OF SKIN.—(*After Ranvier.*)
C. Epidermis. *S.* Sweat-duct. *P.* Papillæ. *v.* Papillary capillaries. *vs.* Deep plexus supplying sweat-coils. *D.* Corium.

the blood-vessels. Juice-spaces filled with lymph occur at all levels in the corium.

Nerves.—The skin contains both medullated and non-medullated nerve fibers. When the former end in the subcutaneous connective tissue, they terminate in Pacinian corpuscles; when they end in the papillæ of the skin, they form tactile corpuscles. The nonmedullated fibers penetrate the corium, and are lost in the mucous layer of the epidermis. The skin also contains motor and vasomotor nerves.

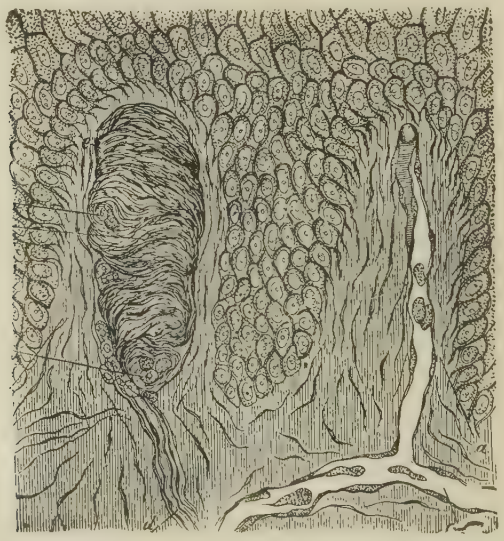


FIG. 5.—TACTILE CORPUSCLE.—(*After Biesiadecki.*)

a. Vascular papilla. *b*. Nervous papilla. *c*. Blood-vessel. *d*. Medullated nerve-fiber. *e*. Tactile corpuscle. *f*, *f*. Transversely divided medullated nerve-fibers.

Nerve-corpuscles.—(*a*) The *corpuscles of Krause* (bulb corpuscles) are found chiefly in the sensory mucous membranes, most abundantly in the conjunctiva. They are round or elongated bodies, and resemble the Pacinian corpuscles.

(*b*) The *tactile corpuscles* (touch corpuscle, corpuscle of Meissner) are found in the skin-papillæ, most abundantly in

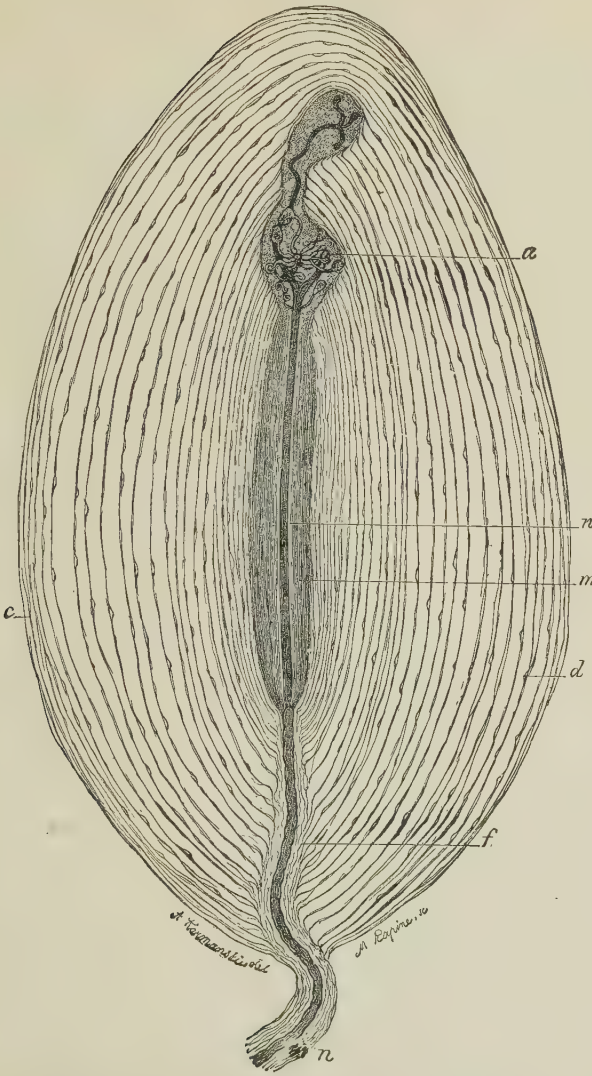


FIG. 6.—PACINIAN CORPUSCLE FROM THE MESENTERY OF A CAT.—(*After Ranvier.*)

c. Capsules. *d*. Endothelial lines which separate them. *n*. Afferent nerve. *f*. Funiculus. *m*. Central club formation. *n'*. Terminal fiber. *a*. Point of branching of terminal nerve-fiber.

the fingers. They are round or oval fibrous masses with a striated covering.

(*c*) The *Pacinian corpuscles* are most numerous in the skin of the fingers and toes. They lie, for the greater part, in the subcutaneous tissue. They are oval bodies made up of a "central nerve-fiber," a "core," or surrounding substance, and a "capsular covering," which has many concentric layers.

Muscle.—Both voluntary and involuntary muscle-fibers occur in the skin. Striated muscle is found in the skin of the face. Smooth muscle exists in the scrotum and in connection with hair-follicles. The contraction of the hair-muscle causes the hair to rise, and also expresses sebum from the sebaceous glands.

Sebaceous glands are racemose glands situated in the corium, chiefly in contiguity with hair-follicles. They may, however, occur independently of them, as upon the border of the lip, penis, etc. They consist of one or more pouches, which empty into a common duct. Sebum consists of fatty degenerated cells mixed with epithelial débris.

Sweat-glands are simple tubular glands which lie in coils in the deeper layers of the corium and in the subcutaneous tissue. They empty into excretory ducts, which traverse the corium, penetrate the epidermis between the papillæ, and then pursue a spiral course to the surface of the skin. They are most abundant in the palms and soles.

Hair.—Hair is nothing more than a specialized epidermal tissue. The corium and epidermis are somewhat modified in structural arrangement to accommodate the hair. This modification gives rise to the hair-follicle. Hair-follicles are slender, cylindric pockets, which dip down into the corium and the subcutaneous tissue.

The *outer or dermic* coat of the follicle consists of three layers: an external longitudinal fibrous layer, a middle transverse layer, and an internal homogeneous or vitreous layer.

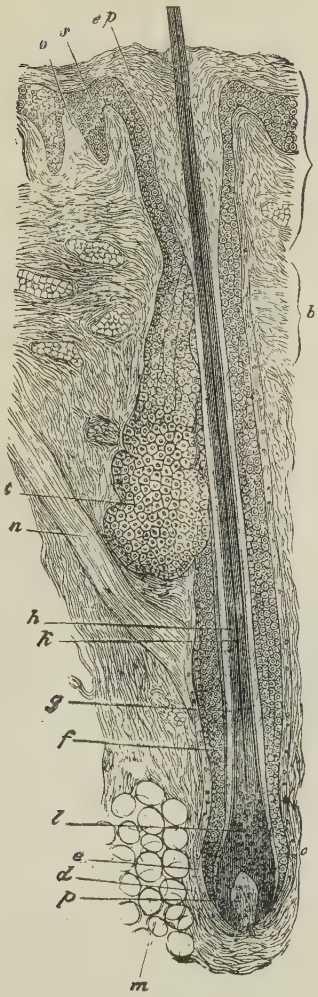


FIG. 7.—NORMAL HAIR OF THE BEARD.—(*After Biesiadecki.*)

a. Excretory duct. *b*. Neck of the follicle. *c*. Dilatation of the hair-follicle. *d*. External sheath of the hair-follicle. *e*. Internal sheath of the hair-follicle. *ep*. Epidermis. *f*. External root-sheath. *g*. Internal root-sheath. *h*. Cortical substance. *k*. Medullary substance of hair-shaft. *l*. Root of hair. *m*. Fat-cells. *n*. Arrector pili. *o*. Papillæ of skin. *p*. Papilla. *s*. Rete mucosum. *t*. Sebaceous gland.

The *internal or epidermic* coat (outer root-sheath of some authors; prickle-cell layer) is a continuation of the mucous layer of the epidermis.

The *root-sheath proper* (inner root-sheath of some authors) is composed of two layers, an external layer (layer of Henle) and an internal layer (layer of Huxley).

The *cuticle* of the root-sheath is a thin layer of cells lying internal to the root-sheath.

From without inward, then, the coats of the follicle are:

(*a*) Dermic coat, three layers.

(*b*) Epidermic coat (outer root-sheath; prickle layer).

(*c*) Root-sheath proper (inner root-sheath) { layer of Henle.

(*d*) Cuticle of the root-sheath, { layer of Huxley.

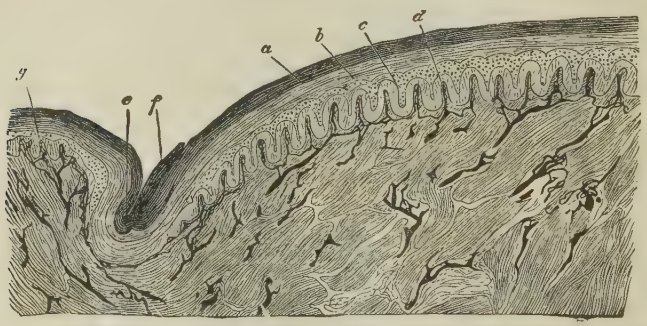


FIG. 8.—TRANSVERSE SECTION OF A NAIL, MADE THROUGH THE PROPER BED OF THE NAIL.—(*After Biesiadecki.*)

a. Nail. *b*. Loose horny layer beneath it. *c*. Mucous layer. *d*. Transversely divided nail ridges with injected blood-vessels. *e*. Nail fold destitute of papillæ. *f*. Horny layer of nail-fold. *g*. Papillæ of skin.

The skin outlet of the follicle is called the *mouth*. The *neck* corresponds to the constriction near the entrance of the sebaceous duct. The *bulb* is the dilated lower end of the follicle.

The hair itself consists of a *cortex* or cortical substance which constitutes the bulk of the hair, the *medulla*, which lies in the medullary canal, and the *cuticle*, a thin membrane covering the hair. The portion of the hair outside the skin

is called the *shaft*, that in the skin, the *root*, the nether termination of which constitutes the *bulb;* the concavity of the bulb fits over the papilla, through which the nourishment of the hair is supplied.

Nail.—The nail, like the hair, is a specialized epidermal structure. It is composed of two layers, the mucous or soft layer, and the horny which constitutes the nail proper.

The *nail bed* is the tissue covered by the nail. The posterior end of this is the *matrix* from which the nail grows. The exposed portion of the nail is termed the *body*. The posterior portion embedded in the groove is the *root*. The *nail groove* is the groove extending around the proximal portion of the nail. From this springs the *nail fold*. The thin skin that often becomes adherent to the nail is called the *nail skin* or eponychium. The whitish cresent on the nail is the *lunula*, and is due to a lessened translucency of that portion. Accidental white spots on the nail are due to the presence of air between the lamellæ.

SYMPTOMATOLOGY

A. OBJECTIVE SYMPTOMS

Lesions upon the skin may be *primary* or *secondary*. The primary lesions constitute the initial manifestations upon the skin. The secondary lesions result from either natural or accidental modification of the primary lesions.

The primary lesions consist of macules, papules, vesicles, blebs, pustules, tubercles, wheals, and tumors.

Maculæ (macules) are circumscribed discolored patches of skin of variable shape and size, without elevation or depression.

Papulæ (papules) are circumscribed solid elevations of the skin, varying in size from a pin-head to a pea.

Vesiculæ (vesicles) are pin-head- to pea-sized circumscribed elevations of the epidermis, containing clear or opaque fluid.

Bullæ (blebs) are round or irregularly shaped pea- to egg-sized elevations of the epidermis containing clear or opaque fluid.

Pustulæ (pustules) are circumscribed flat or acuminate elevations of the epidermis containing pus.

Pomphi (wheals) are edematous circumscribed irregular pinkish elevations of the skin, transitory in character.

Tubercula (tubercules) are circumscribed, solid, deepseated elevations of the skin attaining or surpassing the size of a pea.

Tumores (tumors) are variously sized and shaped prominences, having their seats in the corium or subcutaneous tissue.

The secondary lesions comprise scales, crusts, excoriations, fissures, ulcers, scars, and stains.

Squamæ (scales) are dry epidermal exfoliations shed from the surface of the skin.

Crustæ (crusts) are brownish or yellowish masses of dried exudation.

Excoriationes (excoriations) are epidermal denudations, usually the result of local traumatism.

Rhagades (fissures) are linear cracks or wounds in the epidermis or corium due to disease or injury.

Ulcera (ulcers) are round or irregular losses of tissue involving the skin and subcutaneous tissue.

Cicatrices (scars) are connective-tissue new formations occupying the region of former losses of tissue.

Pigmentationes (stains) are discolorations of the skin left after the disappearance of cutaneous lesions.

B. SUBJECTIVE SYMPTOMS

Among the subjective phenomena occuring in skin diseases may be mentioned sense of heat, burning, itching, smarting, tingling, and pain. These are present in the different dermatoses in varying degrees of intensity.

CLASSIFICATION

The classification of Duhring has been adopted in the presentation of the subject. It is as follows:

CLASS I.—ANÆMIÆ—ANEMIAS

[*Transient or Persistent, General or Local*]

CLASS II.—HYPERÆMIÆ—CONGESTIONS

[*Process Congestive, Diffuse or Circumscribed, chiefly Superficial*]

		Predominant Lesions
Erythema Hyperæmicum.	Active.	Erythematous.
Livedo, Cyanosis	Passive.	

CLASS III.—EXUDATIONES—INFLAMMATIONS

[*Process Inflammatory, Diffuse or Circumscribed, Superficial or Deep-seated*]

	Predominant Lesions
Erythema Exudativum.	Erythematous.
Erythema Pernio.	
Erythema Exudativum Multiforme.	
Erythema Nodosum.	
Pellagra, Acrodynia.	
Urticaria.	Erythematous, Edematous.
Urticaria Pigmentosa.	
Œdema.	
Eczema.	Erythematous, Papular, Vesicular, Pustular, Squamous or Multiform.
Impetigo.	Pustular.
Impetigo Herpetiformis.	
Ecthyma.	
Dermatitis Herpetiformis.	
Pemphigus.	Vesicular, Bullous, or Pustular.
Pompholyx.	
Herpes Simplex.	
Herpes Zoster.	
Lichen.	Papular.
Prurigo.	

Acne.		Papular, Tubercular, or Pustular, involving Sebaceous Glands or Follicles.
Sycosis.		
Psoriasis.		Erythemato-squamous.
Pityriasis Rubra Pilaris.		
Pityriasis Rubra.		
Dermatitis Exfoliativa.		
Pityriasis Rosea.		
Erysipelas.		Erythematous, Edematous.
Morbilli.	Eruptive Fevers.	Erythematous, Maculopapular.
Rubella.		
Scarlatina.		
Variola.	Due to Drugs, Poisons, Caloric, influences Traumatism, etc.	Vesicular, Pustular.
Vaccinia.		
Varicella.		
Dermatitis Medicamentosa.		Varied, Multiform, Superficial or Deep-seated.
Dermatitis Venenata.		
Dermatitis Calorica.		
Dermatitis Traumatica.		
Dermatitis Neuropathica		
Gangræna.		Varied, Multiform, Suppurative, Necrotic, Deep-seated.
Furunculus.		
Carbunculus.		
Equinia (Glanders).		
Anthrax (Pustula Maligna).		
Tinea Trichophytina (Tinea Circinata, Tinea Tonsurans, Tinea Sycosis).	Due to Phytoparasites.	Erythematous, Squamous, Multiform, involving Epidermis, Follicles, Hair, or Nail.
Tinea Favosa.		
Tinea Versicolor,		
Tinea Erythrasma,		
Tinea Imbricata.		Nodose, Ulcerative, Deep-seated.
Actinomycosis, Mycetoma.		
Pediculosis.	Due to Zooparasites.	Varied, Multiform, Superficial, or Deep-seated.
Scabies.		
Dracunculosis.		
Onychia.		Involving nail.

CLASS IV.—HÆMORRHAGIÆ—HEMORRHAGES

[*Process Hemorrhagic, Diffuse or Circumscribed, Superficial or Deep-seated*]

Structure chiefly involved

Purpura.	Corium, Connective Tissue.

CLASS V.—HYPERTROPHIÆ—HYPERTROPHIES

[*Process Hypertrophic Formative, Diffuse or Circumscribed, Superficial or Deep-seated*]

Structure chiefly involved

Lentigo.	Pigment.
Chloasma.	
Nævus Pigmentosus.	
Callositas.	Epidermis.
Clavus.	
Ichthyosis.	
Verruca.	
Molluscum Epitheliale.	
Cornu.	
Comedo.	Follicles, Sebaceous Glands.
Milium.	
Cystis Sebacea.	
Keratosis Pilaris.	
Keratosis Follicularis.	
Hypertrichosis.	Hair.
Nævus Pilosus.	
Onychauxis.	Nail.
Elephantiasis.	Corium; Connective Tissue.

CLASS VI.—ATROPHILÆ—ATROPHIES

[*Process Atrophic, Retrogressive, Diffuse or Circumscribed, Superficial or Deep-seated*]

Structure chiefly involved

Albinismus.	Pigment.
Vitiligo.	

Atrophia Cutis Propria.	Corium.
Xeroderma Pigmentosum.	
Striæ et Maculæ Atrophicæ.	
Morphœa.	
Scleroderma.	
Atrophia Pilorum Propria.	Hair.
Trichorrhexis.	
Alopecia.	
Canities.	
Onychatrophia, Leuconychia.	Nail.

CLASS VII.—NEOPLASMATA—NEW FORMATIONS

[*Process Neoplastic, Benign or Malignant, Diffuse or Circumscribed, chiefly Deep-seated*]

	Structure chiefly involved	
Fibroma.	Corium, Connective Tissue.	Benign.
Neuroma.		
Cicatrix.		
Keloid.		
Xanthoma.		
Myoma.	Muscle.	
Angioma, Nævus Vascülosus, Telangiectasis.	Blood-vessels.	
Lymphangioma.	Lymph-vessels.	
Adenoma.	Glands.	
Tuberculosis, Scrofulosis.	Corium, Connective tissue.	Malignant.
Lupus Vulgaris.		
Lupus Erythematosus.		
Rhinoscleroma.		
Syphilis.		
Frambœsia (Yaws), Verruga Peruana.		
Lepra.		
Carcinoma, Dermatitis Papillaris Maligna (Paget's Disease).		
Sarcoma.		
Granuloma Fungoides.		

CLASS VIII.—ANOMALIÆ SECRETIONIS GLANDULARUM—ANOMALIES OF SECRETION OF THE GLANDS

[*Glands Involved Functionally*]

A. GLANDULARUM SUDORIPARARUM—SWEAT-GLANDS

	Predominant Process
HYPERIDROSIS.	Disordered Secretion without Structural Change.
BROMIDROSIS.	
CHROMIDROSIS.	
HÆMATIDROSIS.	
URIDROSIS.	
ANIDROSIS.	
SUDAMEN.	Disordered Secretion with Structural Change.
HIDROCYSTOMA.	
MILIARIA.	

B. GLANDULARUM SEBACEARUM—SEBACEOUS GLANDS

SEBORRHÆA.	Increased or Altered Secretion.

CLASS IX.—NEUROSES—NEUROSES

Sensory Diseases, Functional, without Primary Lesions

	Chief Symptoms
HYPERÆSTHESIA.	Increased or Painful Sensation.
DERMATALGIA.	
PRURITUS.	Itching.
ANÆSTHESIA.	Decreased Sensation.

CLASS I.—ANAEMIAE—ANEMIAS

Anemia of the skin is characterized by a reduction in the quantity or a change in the quality of the blood in the integument. It may be transient or persistent.

Transient anemia occurs after hemorrhages, during certain nervous states, such as fear, anger, and in shock, fainting, etc.

Persistent anemia occurs in connection with the various essential anemias and cachexias. It occurs, moreover, in

morphœa, scleroderma, and alopecia areata as a result of vascular or trophic disturbances.

CLASS II.—HYPERÆIÆ—HYPEREMIAS

Hyperemia, or congestion, is characterized by an overfilled state of the blood-vessels of the integument, unattended by inflammation. Hyperemia may be *active* or *passive*. Each form as to origin may be further subdivided into external and internal symptomatic hyperemia.

External active hyperemia is a local congestion due to the action of an irritant, such as a mustard plaster.

Internal symptomatic active hyperemia is due to visceral or nervous disturbances. Flushing and blushing are familiar examples of this form. Darwin says: Blushing is the most human of all expressions: no lower animal is capable of blushing as it implies self-thought.

External passive hyperemia is characterized by blueness of the skin, or *livedo*. It may be caused by exposure to cold or heat, chemic substances, continued pressure, contusions, and circulatory obstruction resulting from bandages, ligatures, articles of dress, etc.

Internal symptomatic passive hyperemia results from some general disturbance effecting the cardiac, circulatory, or respiratory system. It is characterized by blueness of the skin, to which the term *cyanosis* has been applied.

ERYTHEMA HYPERÆMICUM

Derivation.—Ἐρύθημα, a blush.

Synonym.—Erythema simplex.

Definition.—Erythema hyperæmicum is a congestive disorder of the skin, characterized by nonelevated, variously sized and shaped patches of redness.

Symptoms.—Redness is the essential characteristic of the disease. It may be a bright or a dull red, but always disappears upon pressure. Infiltration and elevation are absent. Mild burning and itching are usually present.

Etiology.—Erythema may be due to external or local causes and internal causes. When not arising from local causes, it is due to a toxemia of one character or another. Local causes are heat, cold, traumatism, poisons, etc.

Erythema caloricum is due to exposure to extremely high or low temperatures.

Erythema solare (sunburn) is due to exposure to the actinic rays of the sun.

Erythema traumaticum is due to cutaneous injury.

Erythema venenatum is due to exposure to poisonous plants.

The internal, or *toxemic* erythemata are exemplified in the stomach rashes of children, in intestinal auto-intoxication and after the use of various antitoxins, drugs, etc.

Treatment.—If the erythema is due to a toxemia, it is evident that treatment must be directed toward this condition.

A saline purge or better a colonic irrigation will promptly relieve an erythema due to the absorption of poisons from the intestinal tract.

Stomach rashes in children will nearly always succumb to fractional doses of calomel.

The local treatment consists of the use of dusting powders and cooling lotions. The following may be employed:

℞. Acidi carbolici ..... ♏xxx
Acidi borici ..... ℥j
Glycerini ..... f ℥ij
Aquæ ..... q. s. ad ..... f ℥vj

ERYTHEMA INTERTRIGO

Erythema intertrigo (*chafing*) is a form of traumatic erythema occurring chiefly in those regions where skin surfaces

are in apposition, such as the genitals, flexures of joints, neck, etc. It is common in children and fat individuals. Moist diapers and the contact of intestinal discharges are often causative. The condition may remain as an erythema or may develop into dermatitis or an eczema. It is then characterized by redness, excoriation, and a mucoid discharge. There is usually a feeling of heat and soreness.

Treatment.—When the condition remains at a true erythema, dusting powders suffice. The following is a useful combination:

℞. Magnes. Carbonat.,
Talci Venet.,
Zinci oxidi.....āā ℥ij M.
Sig.—Dusting powder.

Or a lotion may be employed, such as:

℞. Resorcini,
Acidi borici,
Glycerini.....āā ℥i
Zinci oxidi..... ℥ij
Aquæ.....q. s. ad..... f ℥vi

If an eczema or a dermatitis supervene, the condition should be treated according to the principles laid down in the treatment of those affections.

CLASS III.—EXUDATIONS—INFLAMMATIONS

ERYTHEMA EXUDATIVUM

This group comprises a number of diseases characterized by erythematous inflammation. They are, in addition, polymorphous. Under this head are included: Erythema multiforme, erythema nodosum, erythema scarlatinoides, the acute exanthematous eruptions, the erythema occurring in Bright's disease, septicemia, malaria, serum disease, etc., etc.

ERYTHEMA MULTIFORME

Synonym.—Erythema exudativum multiforme.

Definition.—Erythema multiforme is an inflammatory disease, characterized by variously sized and shaped patches of erythema, papules, vesicles, and blebs, running an acute course, and accompanied, at times by slight, constitutional disturbances.

Symptoms.—The disease is at times preceded or accompanied by febrile disturbance, malaise, rheumatoid pains, etc.

FIG. 9.—ERYTHEMA MULTIFORME.

The eruption, which comes out more or less suddenly, may consist of macules, maculo-papules, vesicles and blebs, one type of lesion as a rule predominating. After remaining stationary for some days, the eruption gradually disappears. Any part of the body may be involved, although the disease exhibits a marked predilection for the backs of the hands and feet, and not infrequently the face and neck. Itching and

burning, when present, are usually mild. The lesions are at first bright red, but later become purplish or bluish in color.

When the patches are circular with peripheral spreading and central clearing up, the affection is called *erythema circinatum*, or *erythema annulare*. Concentric rings of variegated colors are termed *erythema iris*, and when the rings are made up of vesicles, *herpes iris*. The fusion of circular patches may produce gyrate or festooned configurations—*erythema gyratum et figuratum*. *Erythema papulosum*, characterized by discrete or aggregated pea- to bean-sized reddish or violaceous maculo-papules or papules, is the commonest expression of the disease. *Erythema vesiculosum* and *erythema bullosum* are characterized respectively by vesicles and blebs.[1]

The eruption comes out in crops and lasts from one to four weeks. In some cases there is a distinct tendency to recurrence.[2]

Etiology.—The disease occurs most frequently in youth and early adult life. Most cases are observed in spring and autumn. The eruption is due to the circulation in the fluids of the body of a poison. The poison may be introduced from without or may be developed within the body, particularly in the intestines. Various drugs, foodstuffs, parasitic infections and therapeutic serums may give rise to erythematous eruptions belonging in this group. In many cases the eruption is caused by some particular article of diet, for instance nuts, for which the patient has an idiosyncrasy. Tissue poisons generated as a result of disturbed function of the

[1] In *erythema perstans*, we note figurate or circinate patches which may persist for a number of months whether this condition represents a disease *sui generis* or is properly classifiable under erythema multiforme is not definitely determined.

[2] Osler and others have observed visceral lesions affecting the lungs, kidneys, gastrointestinal tract, etc., associated with the erythema group of skin diseases. The presence of wheals, inflammations and hemorrhages in these organs, and their extent and severity, will determine the character of the accompanying symptoms.

kidneys and other organs, are doubtless operative as causes in some cases.

Pathology.—There is dilatation of the papillary and subpapillary blood-vessels, with serous and sometimes moderate cellular exudation into the tissue. The affection is regarded by some as an angioneurosis.

Diagnosis.—The distinguishing features of this disease are the distribution, peculiar coloration and multiformity of the lesions, the acute course, the spontaneous involution of the eruption, and the associated general symptoms.

Prognosis.—Good. The tendency of some cases to recur should be remembered.

Treatment.—Erythema multiforme is a self-limited disease running its course, in most cases, in from one to two weeks or more. It is a good plan to administer calomel followed by a saline laxative. In recurrent cases, the cause must be assiduously sought for.

Locally, soothing lotions, such as the following, are indicated:

℞. Acidi carbolici ..... ♏xxx
Acidi borici ..... f ℥j
Glycerini ..... f ℥vj
Pulv. Zinci oxidi ..... ℥ii
Aquæ ..... q.s.ad ..... f ℥vj

ERYTHEMA SCARLATINOIDES

Definition.—Scarlatiniform erythema is a non-contagious eruption resembling true scarlatina in its cutaneous manifestations, but running a quite different course.

Symptoms.—The condition comes on suddenly, and is usually attended with malaise, chill, and a temperature varying from 100° to 103° F. The eruption is either punctiform or diffuse, and may begin on any portion of the body. It may be quite sharply defined. Desquamation occurs about

the third or fourth day, and may be either furfuraceous or lamellar. At times a glove-like cast of the hand is exfoliated. In its more severe forms the term *dermatitis exfoliativa* is a more appropriate term. This is at times merely a scarlatinoid erythema "writ large." In other cases, however, dermatitis exfoliativa is secondary to psoriasis or other dermatoses which have been overtreated. The hair and nails are occasionally shed. After a duration of from one day to several weeks the eruption disappears and is followed by rapid and profuse desquamation. There is a marked tendency to recurrence.

Etiology.—Obscure. Idiosyncrasy plays a most important rôle. The affection is apt to supervene during the course of other diseases, chief among which may be mentioned rheumatism, pyemia, septicemia, malaria, peritonitis, uremia, ptomain poisoning, smallpox, typhoid fever, diphtheria, etc. The affection is less common since the introduction of antisepsis. Eruptions indistinguishable from scarlatiniform erythema follow at times the ingestion of drugs, particularly quinin, salicylates, mercury, opium, antipyrin, copaiba, belladonna, veronal, etc.

Diagnosis.—It is extremely important to differentiate this disease from scarlatina.

Scarlatiniform Erythema	Scarlet Fever
1. Onset with constitutional symptoms, which are usually very mild compared with intensity of eruption.	1. Onset with more severe constitutional disturbances, and commonly with vomiting.
2. Eruption frequently not generalized; erythema at times marginated.	2. Eruption diffusely generalized, and not marginated save at times on arms.
3. Face often exempted. When involved the forehead and eyelids may be affected.	3. Face frequently exhibits eruption on cheeks, which are deeply flushed, with circumoral pallor.
4. Tongue may be quite normal.	4. Tongue coated—edges red—papillæ enlarged.

5. Fauces may be reddened.	5. Fauces swollen, tonsils enlarged, and often coated with thin yellowish exudate.
6. Desquamation may be intense, but terminates comparatively early.	6. Desquamation may continue from four to eight weeks.
7. Frequent history of previous attacks.	7. Second attacks of genuine scarlet fever are rare.
8. Not contagious.	8. Frequently history of contagion.
	9. Leucocytosis is almost invariably present.

Prognosis.—Favorable. Recurrences not infrequent.

Treatment.—For the eruption, simple dusting powders or starch or bran baths may be used. The underlying condition must be ascertained and treated. A saline purge is usually indicated at the onset.

ERYTHEMA NODOSUM

Synonym.—Dermatitis contusiformis.

Definition.—Erythema nodosum is an acute inflammatory disease of the skin, characterized by the formation of roundish or oval node-like swellings.

Symptoms.—The disease is usually ushered in with fever, articular pains, malaise, and coated tongue. Soon roundish or oval node-like swellings, varying in size from a hazel-nut to an egg, develop over the region of the tibiæ. In some cases the forearms, trunk, and face are involved. The nodes are rosy red in color, tense and shining like erysipelas, and exquisitely tender to the touch. At first hard, they later soften, but never suppurate. Their duration is from a week to ten days, during which time they undergo all the color gradations observed in common contusions. In number they vary from about five to twenty. Erythema nodosum is frequently associated with other forms of erythema multiforme.

Etiology.—The affection is one of youth and early adult life. It is uncommon after the age of thirty. It is met with at least twice as frequently in males as in females. Rheumatoid symptoms, gastro-intestinal disorders, and general nutritive disturbances are not infrequently associated. Tuberculosis, syphilis and other infectious processes appear at various times to be causative particularly the first named. The disease is probably closely allied to erythema multiforme.

Pathology.—The nodes show serous exudation throughout the entire cutis and even the subcutaneous tissue. There is dilatation of the lymph-spaces and some cell infiltration. Blood pigment from hemorrhages is present.

Diagnosis.—The distribution, tenderness, symmetry, course and color changes of the lesions enable one to differentiate the affection from bruise, abscess, gumma, and erythema induratum.

Prognosis.—Favorable, recovery ensuing in from two to six weeks.

Treatment.—Regulation of the bowels by salines. Internally, quinin or salicylate of soda. Locally, hot lead-water and laudanum, rest, and elevation of the limbs.

ERYTHEMA INDURATUM

Synonym.—Erythéme induré des scrofuleux (Bazin).

Definition.—Erythema induratum is an inflammatory affection occuring in tuberculous individuals, and characterized by circumscribed infiltrations of the skin ending either in absorption or necrosis.

Symptoms.—Strumous girls and young women are most liable to it. It may, however, occur in boys, and occasionally in elderly subjects. It is most frequent in winter, and attacks individuals who suffer from cold hands and feet. Overwork and prolonged standing seem to be etiologic factors. The lesions consist of ill-defined, finger-nail-sized or larger, bluish-red, deeply infiltrated patches, involving with predilec-

tion the calves of the legs. As a rule, but one or two nodules are present, although in some cases there may be a half dozen or more. Pain and tenderness are generally absent, but may be marked. The infiltration may gradually be absorbed or may slough, leaving an indolent ulcer. The affection is relatively uncommon.

Diagnosis.—The absence of systemic disturbance, the long duration, the relapses, and the paucity of lesions distinguish this affection from erythema nodosum. The subjects may or may not present other signs of the tuberculous diathesis.

Prognosis.—The affection may persist for a long time. Even after apparent cure, relapses are prone to occur.

Treatment.—Tonics, good food, and prolonged rest, with elevation of the legs, are indicated. In some cases I have obtained good results from the use of the X-rays. Ultraviolet light may also be used.

Small doses of neoarsphenamin (0.2 to 0.3 gm.) administered intravenuously once a week for 8 or 10 weeks often accomplish good results. In other cases, gold and sodium thiosulphate in doses of 30 to 80 mg. will do well.

PELLAGRA

Derivation.—*Pellis* (L.) skin; *aeger* (L.) diseased.

Definition.—Pellagra is an endemic, constitutional disease, characterized by symptoms affecting the alimentary, nervous and cutaneous systems, and not infrequently terminating fatally.

Symptomatology.—The constitutional symptoms are those of progressive physical and mental debility. The eruption consists of a bright, dark, or livid erythema, followed by desquamation, which affects chiefly the exposed parts, such as the face, neck, and hands. The skin is swollen and the seat of burning and itching. At times blebs are present. A highly characteristic feature of the erythema and subsequent pigmentation is the sharp margination of the upper border

upon the wrist or forearm, producing the so-called "pellagrous glove." The skin manifestations present three stages: (1) Congestion; (2) thickening and pigmentation; (3) atrophic thinning.

The nervous symptoms consist of spinal tenderness, exaggerated reflexes, mental depression, sometimes ending in melancholia, hallucinations, stupor and convulsions. Many

FIG. 10.—Pellagra. Fatal cases.

cases of pellagra have been found in insane asylums; these, however, represent but a small percentage of the total. The gastro-intestinal symptoms are chiefly stomatitis, salivation and intractable diarrhœa. The tongue often presents a brilliant reddish color.

The disease tends to disappear in the winter and return in the spring.

Etiology.—The cause of pellagra is as yet not definitely known. The view, heretofore held that the disease was due

to diseased maize or corn, is much less generally entertained. Goldberger's work strongly suggests that the disease is due to an improperly balanced diet, in which vitamines are deficient. A diet in which corn meal is the chief article of food may therefore be causative in this sense. The disease is extensively prevalent in the southern portion of the United States. For many years it was chiefly found in Italy, Spain and the Orient.

Prognosis.—Mild cases often recover. Severe cases grow progressively worse and die.

Treatment.—A properly balanced diet with plenty of milk, green vegetables, etc. will often lead to recovery if the case is not too far advanced. Brewer's yeast in either liquid or dry form is strongly advocated by Goldberger. Arsenic and tonics are commonly administered. Neoarsphenamin has been used in a few cases with alleged success.

ACRODYNIA

Synonym.—Epidemic erythema.

Definition.—Acrodynia is an acute epidemic disease, characterized by an erythematous eruption, thickening, desquamation and pigmentation of the skin, and disorders of the nervous system.

Symptoms.—The salient features of the affection are: Gastro-intestinal irritation, conjunctival injection, edema of the face, erythematous eruption upon the hands and feet, thickening, desquamation, pigmentation of the skin, and sensory disturbances (pain, hyperesthesia, anesthesia, etc.).

Etiology.—The disease is probably caused by the action of some toxic substance upon the central nervous system. It is somewhat related to pellagra.

Prognosis.—Favorable, most cases recovering in a few weeks to a few months.

Treatment.—To be based upon general principles. Brocq advises counterirritation to the spine.

URTICARIA

Derivation.—*Urtica* (L.), a nettle.

Synonyms.—Hives. Nettle-rash.

Definition.—Urticaria is an inflammatory affection of the skin, characterized by the formation of evanescent whitish and pinkish elevations attended by intense itching.

Symptoms.—The eruption appears suddenly, manifesting itself as firm, circumscribed, whitish or pinkish elevations (wheals, pomphi), with reddish areolæ. The wheals last from a few minutes to several hours, disappear, and are succeeded by others. They are asymmetric, though usually bilateral, of pea or bean-size, and irregular in shape, often, however, being linear. They may involve any portion of the cutaneous surface, or even the mucous membranes. When the pharynx or larynx is involved, alarming suffocative attacks may occur.

The itching in urticaria is intense, the relief produced by scratching being purchased at the cost of the excitation of new lesions. The skin is markedly sensitive to all sorts of irritation, and responds by the production of wheals. The artificial production of wheals gives rise to the form termed *urticaria factitia*. In some urticarial subjects one can inscribe a name upon the skin with a pointed instrument, and in a few minutes observe the letters stand out in wheals as if embossed. To this phenomenon the term dermographism is given. Such a reaction may also be provoked, at times, in those who may not be the subjects of spontaneous urticarial outbreaks.

In children urticaria is apt to take the papular form, *urticaria papulosa* (*lichen urticatus*). In such cases there are hard inflammatory papules present, with a reddish edematous areola; the areola later disappears, but the papules persist. The summits of the papules are apt to be excoriated on account of the scratching prompted by the intolerable itching.

FIG. 11.—DERMOGRAPHISM. LETTERS PRODUCED IN AN URTICARIAL SUBJECT BY WRITING UPON THE SKIN WITH A POINTED INSTRUMENT

In some individuals wheals attain the size of an egg or even larger. This form is called *urticaria tuberosa* or *urticaria gigans* (giant urticaria).

Hemorrhage into the wheal occurs occasionally, giving rise to the form known as *urticaria haemorrhagica*.

At times the upper layers of the wheat are raised into a bleb by the subjacent serum; this type is designated *urticaria bullosa*.

Urticaria, as a rule, runs an acute course, subsiding in a few days. In some instances, however, it may become chronic, wheals appearing, disappearing, and reappearing, the process extending over a period of months or even years.

Etiology.—The great majority of cases of acute urticaria are produced through some disorder of the alimentary tract. Substances taken into the stomach may cause urticaria, either by a mechanical irritation of the stomach or bowel, or by producing a toxemia. Intestinal parasites and undigested aliment may act as mechanical irritants. The substances capable of producing toxemia are almost numberless. They may be primarily toxic, or may only develop their toxicity through putrefactive changes while in the bowel. Again, a large number of substances, both foods and drugs, perfectly innocuous to the ordinary individual, act, on account of idiosyncrasy, as poisons to others. The process is to be regarded as allergic. The following articles of food are particularly apt to produce hives: Lobsters, crabs, mussels, cheese, sausage, pork, nuts, strawberries, oatmeal, mushrooms, etc. Allergic reactions to food stuffs and to drugs may often be discovered by cutaneous tests.

The following drugs are prone to produce urticarial eruptions: Quinin, copaiba, cubebs, salicylic acid, morphin, turpentine, chloral, the barbituric acid series and many other coal tar products. Urticaria may be produced reflexly also by irritation of the viscera other than the alimentary tract. Thus, irritation of the uterus and adnexa may act as an etiologic

factor. Rupture or puncture of hydatid cysts or puncture of pleural effusions may be followed by hives. Various focal infections may be responsible. Again, the disease may be produced by direct local irritation, such as the sting of the nettle, the bite of jelly-fish, mosquito, wasp, etc. Chronic urticaria is often due to sudden fright, profound grief or some other psychic shock. A lowered state of the nervous system from overwork, prolonged anxiety, etc. may likewise be operative. Indeed, most cases of chronic urticaria are of nervous origin.

Pathology.—The wheal is produced as a result of direct or reflex disturbance of the vasomotor apparatus. The lesion consists of a circumscribed edema of the cutis. A momentary spasm of the cutaneous vessels is followed by a dilatation, with exudation of serum and leukocytes. At the summit of the lesion, the effusion is so great as to produce a pressure anemia, hence the whitish coloration. The peripheral vessels are engorged, hence the reddish areola.

Diagnosis.—The characteristic features of urticaria are the presence of wheals, their rapid evolution and great evanescence, and the intense itching.

Prognosis.—Acute cases recover in a few days to a week or more Chronic cases may persist for a long time and exhaust the entire therapeutic armamentarium of the physician.

Treatment.—In severe acute cases seen early, an emetic should be administered to get rid of the offending substance. Later, magnesium sulphate is to be employed until free catharsis is produced. Colonic irrigation is an excellent treatment for acute attacks. In subacute cases, salol or phenacetin, in five- to ten-grain doses, after meals, may be used with good results. In chronic cases most earnest efforts should be directed toward the discovery of the cause. The patient's dietary must be the subject of the most careful study. Every detail of occupation, mode of living and of habits must be scrutinized. The most careful examination, however, will, in

some cases, fail to disclose any discoverable cause. Many cases will be found to be due to gastro-intestinal disturbances or to causes affecting the nervous system. In such cases the most simple diet should be prescribed. In obstinate cases one will do well to restrict the patient for a few weeks to a milk diet. The cutaneous food tests will sometimes reveal the action of some offending food stuff. In nervous patients a rest cure, a long sea voyage or a trip abroad sometimes brings about recovery.

In obscure cases some of the following remedies may be tried: Atropin by mouth or hypodermically, adrenalin hypodermically or adrenal extract orally, antipyrin or phenacetin, quinin in full doses, sulphurous acid in dram doses, long-continued course of arsenic in small doses, bromid of potassium, pilocarpin, etc.

Local treatment is necessary to give relief from the harassing itching. The best antipruritic lotions are: Carbolic acid, ℥ j-iij to the pint: menthol, gr. v-xv to the ounce: liq. carbonis detergens, ℥ij-iij to water ℥ viij; saturated solution of benzoic acid; alkaline baths (one-quarter pound of washing soda to twenty gallons of water), etc. The following formula is extremely efficacious:

℞. Mentholis ..... gr. xx
Acidi phenici ..... ℥i
Glycerini ..... f ℥ii
Spts. Vini rectif.
Aq. hamamelidis.
Aq. Camphoræ ..... āā f ℥iii
M. S. Use Locally.

URTICARIA PIGMENTOSA

Synonym.—Xanthelasmoidea.

Definition.—Urticaria pigmentosa is an inflammatory affection of the skin, beginning usually in the first six months of infancy, and characterized by buff-colored, wheal-like nodules, with or without itching.

Symptoms.—The eruption is most abundant upon the neck and trunk. It consists of yellowish-red, split-pea-sized nodules or wheals with pinkish areolæ. The nodules later become yellow, and may remain stationary for months. Some undergo involution, leaving brownish stains after them. Itching is often severe, but may be moderate or entirely absent. The disease is very rare.

Prognosis.—The affection may get well at or before puberty.

Treatment.—Locally, antipruritic applications. Internal treatment to be based upon general indications. The mild use of the X-rays has been advocated.

ANGIONEUROTIC EDEMA

Synonyms.—Acute circumscribed edema, Quincke's disease, giant swelling.

Definition.—A condition, characterized by the acute appearance of circumscribed cutaneous swellings, especially of the face and extremities, which tend, after a variable period of existence, to disappear rapidly, without leaving any secondary changes in the skin. It may also affect the mucous membranes, possibly even of the stomach and bowels.

The disease is probably a vasomotor neurosis, closely allied to urticaria. Osler says that angioneurotic œedema is simply urticaria "writ large."

Symptoms.—Sudden onset, with or without malaise and depression. Nose, lips, eyelids, or extremities may become tremendously swollen. Burning and itching usually not present.

Etiology.—Many cases are of nerve origin. Some cases may be due to food allergy.

Prognosis.—Guarded. Recurrences frequent.

Treatment.—Based upon the principles covering the treatment of urticaria. Calcium lactate in 10 to 15 grain doses, and desiccated adrenal gland may be tried. The treatment is broadly speaking that of urticaria.

ECZEMA

Derivation.—Ἐκζέειν, to boil over.

Synonyms.—Tetter, salt rheum, etc.

Definition.—An acute, subacute or chronic, non-contagious inflammatory disease of the skin, characterized primarily by erythema, vesicles, papules or pustules, and secondarily by scales and crusts, and accompanied by itching and burning.

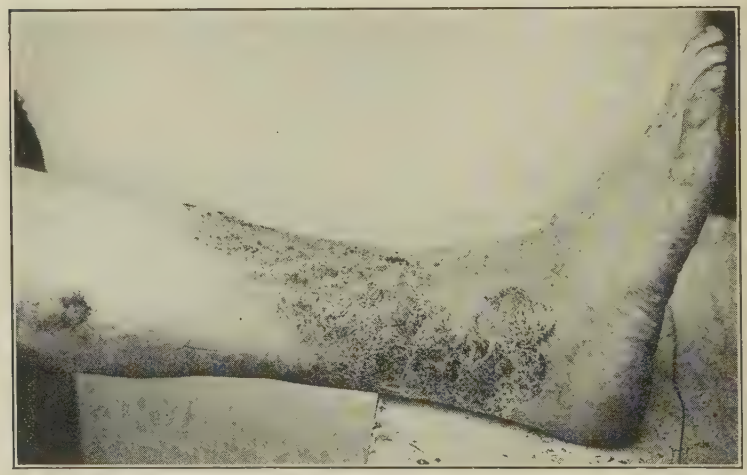


FIG. 12.—ECZEMA SQUAMOSUM OF THE LEG.

Eczema constitutes about thirty per cent. of all skin diseases. It is met with at all ages and in all conditions of life. It may therefore be said to be the most important of all dermatoses. The question of the nature of eczema is a much disputed one. There is no essential difference between dermatitis and eczema, unless one wishes to reserve thel atter term for an inflammation of the skin of systemic origin. Histologically the two conditions cannot be differentiated.

It is best, perhaps, to regard eczema as a dermic reaction due to a great variety of causes of. Eczematous subjects are,

therefore, individuals with a hypersensitive skin, due to various constitutional causes.

Symptoms.—There are four elementary types of eczema: *eczema erythematosum*, *eczema papulosum*, *eczema vesiculosum*, and *eczema pustulosum*. These may remain as such throughout their entire course, or may merely represent stages in the development of another type or may eventuate in the more chronic forms of *eczema rubrum* or *eczema squamosum*.

Eczema Erythematosum

This variety of eczema is encountered most frequently upon the face, trunk, arms and genitalia, but may occur upon any

Fig. 13.—Infantile Eczema.

portion of the cutaneous surface. It begins as vaguely defined bright- or dull-red spots, which soon coalesce and form diffuse areas. The skin is roughened and slightly infiltrated.

When the region about the eyes is involved there is marked edema, which results in an entire closing of the lids. The eruption is accompanied by considerable heat and itching. Convalescence is indicated by a fading of the color, by a branny desquamation, and occurrence of islets of sound skin. This form of eczema exhibits a marked tendency to recurrence. It may remain erythematous or develop into a squamous eczema, or into eczema rubrum.

Eczema Papulosum

Papular eczema involves with predilection the arms and legs, although at times other areas may be affected. It is characterized by pin-head-sized, round, acuminate, reddish elevations, either discrete or closely aggregated. They are often surmounted by minute vesicles. The papules are intensely itchy—a fact which is evidenced by their abraded summits and by the scratch-marks. The eruption tends to relapse, and may be obstinately refractory to treatment.

Eczema Vesiculosum

The onset of a vesicular eczema is heralded by tingling and a feeling of heat. Soon there develop upon an erythematous and swollen base numerous pin-head-sized vesicles, which rapidly become confluent and rupture, permitting the escape of a viscid and sticky serum. The drying of this exudation produces yellow, gummy crusts. The rupture of the vesicles is followed by an abatement of the subjective phenomena. Beneath the crusts the serous exudation continues. The body-linen is stained and stiffened by the constant oozing or weeping.

The course is chronic, with tendency to recurrence. Convalescence begins with a cessation of the serous discharge.

The eruption is common upon the faces of infants, in which locality it has been designated *milk crust* by the older writers. It is also frequently seen on the hands and feet, in which regions it tends to recur, with seasonal periodicity.

Vesicular eczema is very apt to terminate in an eczema rubrum.

FIG. 14.—CRUSTED VESICULAR ECZEMA.

ECZEMA PUSTULOSUM (*Eczema Impetiginosum*)

Pustular eczema usually develops from the vesicular variety. It is doubtful indeed whether a true pustular eczema primarily exists. Secondary pyogenic infection from cocci ever present upon the skin is probably responsible for the formation of the pustules. It occurs most commonly upon the face and scalp of strumous and poorly nourished children. Rupture of the pustules, is followed by the formation of profuse yellowish, brownish, or greenish crusts. The itching is less than in the other forms of eczema.

Eczema Rubrum

Eczema rubrum represents a later stage of one of the elementary varieties of eczema. It is characterized by redness, swelling, infiltration, and moisture, and is usually attended

Fig. 15.—Vesicular-squamous Eczema of Toes and Foot. Probably a case of eczematoid ring worm.

with much itching and burning. The epithelial covering of the cuticle is lost. Profuse crusting results from the drying of the exudation. When it presents a raw, weeping surface, it is

designated *eczema madidans*. It is most frequently situated upon the legs of adults and the faces of infants.

Eczema Squamosum

This is the terminal stage of the above-mentioned types of eczema. In it a regeneration of the corneous layer of the

Fig. 16.—Crusted Weeping Eczema of Face.

epidermis takes place. It is characterized by redness, infiltration, and desquamation. It is often associated with the erythematous variety. In the neighborhood of joints the thickened skin is apt to become fissured. Some writers

include, under the name of squamous eczema, the horny variety commonly seen on the hands and feet.

Other secondary varieties of eczema are:

Eczema Fissum

Characterized by the occurrence of fissures or cracks during the course of an erythematous or squamous eczema. Usually seated upon the face and hands. The deepest fissures are seen about the hands and fingers in thickened, horny eczema. The immobility of the thickened skin leads to the development of deep fissures which bleed and are most painful. Aggravated in cold weather. *Chapping* is a familiar example of a mild form of this affection.

Eczema Sclerosum

Characterized by a leathery infiltration sometimes board-like in character. This is the most chronic and least inflammatory variety of eczema.

Eczema Verrucosum

Characterized by warty excrescences upon an eczematous surface, due to hypertrophy of the papillæ. This condition is seen at times upon the legs in eczema of long standing. Often there is a foul-smelling discharge.

Eczema Papillomatosum

Characterized by a papillary hypertrophy greater in degree than the verrucose variety.

Eczema is also designated as *acute* and *chronic*. These terms refer not only to duration, but also to the intensity of the inflammatory process. An eczema may last a long time and yet be acute in character, if surface exudation be present. Infiltration is the chief characteristic of a chronic eczema.

Etiology.—Our comprehension of what constitutes eczema is undergoing pronounced modification. As our knowledge of causation is enlarged, diseases formerly included under this too comprehensive title, are being separated and excluded.

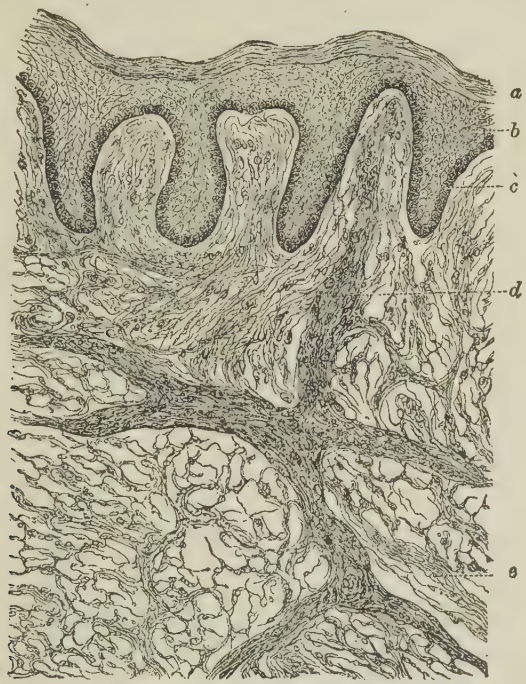


FIG. 17.—SECTION OF SKIN FROM CHRONIC ECZEMA.—(*After Neumann.*) *a*. Epidermis. *b*. Rete Malpighii. *c*. Pigmented cells and enlarged papillæ. *d*. Cellular hyperplasia around blood-vessels. *e*. Diffuse cell infiltration.

As an example many eczematoid eruptions of the hands and feet, which were regarded as typical examples of eczema, are now known to be due to a fungus belonging to the ringworm group. (*Eczematoid ringworm.*) Some writers would exclude from the category of eczema all eczematoid eruptions of

external origin, and include them under the designation of chronic dermatitis. Unfortunately, many of these cannot be clinically distinguished from eczema of systemic origin. For the present, at any rate, we will adhere to the old classification. The causes of eczema are both *internal* and *external*. *Internal* causes include in their category: Disorders of the alimentary canal (dyspepsia, constipation, intestinal auto-intoxication, etc.), functional and organic nerve affections, focal infections, disturbance of the endocrine glands etc. etc. The writer found a high blood uric acid or blood urea in many cases of eczema in patients particularly over the age of forty, uric-acid diathesis, Bright's disease, diabetes. These may at times act as predisposing causes, at other times as exciting causes.

The number of *external* causes is legion. They may be classified as follows:

1. Chemical irritants—acids, strong soaps (containing excess of alkali), medicinal agents such as iodine, formalin bichloride of mercury, etc.

2. Thermal irritants—solar or artificial heat, cold (particularly when associated with wet), etc.

3. Mechanical irritants—friction of skin surfaces or of clothes, pressure, animal parasites, scratching, etc. In a predisposed individual, the application of any of the above irritants may be sufficient to call forth an eczema.

Pathology.—The blood-vessels are markedly dilated, and there is a fluid and cellular exudation into the tissues. The papillary layer of the corium is swollen and the seat of a round-cell infiltration. When vesicles are formed, the rete cells exhibit a parenchymatous œdema; an intercellular œdema also develops, which pushes aside the cells and forms a lake of serum. The roof of the vesicle is usually formed by the corneous layer of the epidermis. In chronic eczema, the cell infiltration extends deep into corium, almost to the subcutaneous tissue, and the papillæ become hypertrophied.

Diagnosis.—The diagnosis of eczema is, as a rule, easy, although it may at times present difficulties.

In eczematoid vesicular eruptions of the palms and soles, microscopic examination is most important to determine the presence or absence of the epidermophyton fungus. Even absence on one examination does not exclude ringworm.

The following cardinal characteristics are common to most cases of eczema:

1. Erythema, due to exudative congestion of the skin.
2. Exudation into the skin, producing papules, vesicles, pustules and discharge.
3. Crusting and scaling.
4. Infiltration and thickening.
5. Itching and burning.

Vesicular eczema may be confounded with *scabies* and *herpes zoster*.

Scabies	Vesiculo-pustular Eczema
1. Characteristic distribution: webs of fingers, flexor surface of arms, axillary folds, nipples, umbilicus, penis, buttocks, and inside of thighs and legs.	1. No characteristic distribution.
2. Presence of burrows.	2. Absence of burrows.
3. Presence of itch-mite.	3. Absence of itch-mite.
4. Itching much worse at night.	4. Itching variable.
5. Communicable.	5. Not communicable.
6. Except in children, face is exempt.	6. Face frequently involved.
7. Treatment rapidly effective.	7. More refractory to treatment.
8. Other members of family often affected.	8. Not the case.

Herpes Zoster	Vesicular Eczema
1. Special distribution—follows lines of nerves.	1. No special distribution.
2. Eruption often preceded by intense neuralgic pain.	2. Itching and burning attend outbreak of eruption.

3. Vesicles arranged in separate groups.	3. No definite arrangement.
4. Vesicles discrete and distinct.	4. Generally confluent.
5. Vesicles large and tense.	5. Vesicles small and flaccid.
6. Vesicles do not rupture spontaneously.	6. Vesicles tend to rupture.
7. Eruption unilateral.	7. Usually symmetric.
8. Severe shooting pains during course of affection.	8. Variable amount of itching and burning.
9. Tends toward spontaneous recovery.	9. Remains stationary or progresses.

Pustular eczema may be mistaken for impetigo contagiosa and sycosis.

Impetigo Contagiosa	Pustular Eczema
1. Contagious; may occur in epidemics.	1. Not contagious.
2. Begins as blebs or vesicles.	2. Begins as pustules or vesicles.
3. Lesions are discrete.	3. Tend to form patches.
4. Lesions very superficial.	4. Lesions deeper.
5. Crusts flat and loosely attached —look as if "stuck on."	5. Crusts profuse and firmly attached.
6. Itching slight or absent.	6. Itching more severe.
7. Curable in one or two weeks.	7. More refractory to treatment.
Sycosis	**Pustular Eczema**
1. Confined to bearded region.	1. Involves other portions of face.
2. Begins in the hair-follicles.	2. Begins superficially. Involves hair-follicles secondarily.
3. Interfollicular skin free.	3. Skin uniformly involved.
4. Slight itching or burning.	4. Itching more marked.
5. Tendency to recur after cured.	5. Usually remains well after cured.

Eczema erythematosum may be mistaken for erysipelas.

Erysipelas	Eczema Erythematosum
1. Sudden onset with chill and marked constitutional symptoms.	1. No constitutional symptoms.
2. Eruption sharply marginated.	2. Fades into surrounding skin.

3. Glazed, shining surface; great edema.	3. Dull, scaly surface; slight infiltration.
4. Color violaceous.	4. Color bright or dull red.
5. Burning pain.	5. Itching more marked.
6. Occurrence of discrete vesicles or blebs.	6. Vesicles occur in patches if at all.
7. Progressive peripheral spreading.	7. Spreading irregular.
8. Runs an acute course.	8. Runs a chronic course.
9. Contagious.	9. Not contagious.

Eczema squamosum may be confounded with psoriasis and ringworm.

Psoriasis	Eczema Squamosum
1. Predilection for elbows, knees and scalp.	1. No seat of predilection.
2. Patches small, round, and sharply marginated.	2. Patches large, irregular, and ill-defined.
3. Scales abundant, firmly attached, and mother-of-pearl in color.	3. Scales scanty, loosely attached and grayish or yellowish in color.
4. Moisture never present.	4. Often history of antecedent moisture.
5. Itching slight, often absent.	5. Itching marked.
6. Disease often lasts with recurrent attacks, throughout a lifetime.	6. More amenable to treatment.

Tinea Circinata (Ringworm)	Eczema Squamosum
1. Contagious.	1. Noncontagious.
2. Patches circular.	2. Patches usually irregular.
3. Patches marginated.	3. Patches usually ill defined.
4. Patches ring-shaped: clear in center.	4. Patches not clear in center.
5. Eruption proceeds with uniform peripheral extension and central healing.	5. Irregular extension and healing.
6. Tricophyton fungus in scales.	6. Scales free from fungus.

Prognosis.—Eczema very often runs a chronic course. If untreated it may continue indefinitely. Nearly all cases will yield, however, to judicious and persevering treatment. Factors influencing the prognosis are:

(*a*) Type of the disease.
(*b*) Duration and extent of the eruption.
(*c*) History of previous attacks.
(*d*) Removability of the cause or causes.
(*e*) Ability of the patient to properly care for himself.

Treatment.—The treatment of eczema is both internal and external. Unfortunately there are no specifics. Internal treatment must be based upon broad general principles. The first therapeutic endeavor should be directed toward the removal of the cause; this, however, is not always easy to ascertain.

Diet.—The diet in all cases of extensive eczema should be carefully regulated. A thorough study of the patient's general condition, particularly with relation to the gastro-intestinal tract and kidneys should be made. A study of the blood chemistry will commonly permit one to more inte ligently outline the diet. In acute cases it is well to eliminate all highly nitrogenous food such as the flesh of animals. Such articles as salted meats, pork, shell-fish, sugar, pastries, confections, pickles, sauces, condiments, cheese, and excess of animal foods should be assiduously avoided. Tea and coffee should be reduced to a minimum and alcoholic beverages entirely prohibited. Each case must however be treated upon its individual merits. In patients with a high blood area figure, meat, fish, fowl, internal organs and soups made with meat should be excluded. The cutaneous food tests are only rarely of value in bringing to light food hypersensitiveness. While in most cases, the results of the tests are negative they are at times positive and may yield results. Particularly in children milk, eggs or other simple foodstuffs may be responsible for an eczema.

Laxatives.—Regulation of the bowels is of great importance. It is best to avoid laxatives and rely upon bran, or agar, mineral-oil and the free drinking of water, and the eating of abundant fruit and coarse vegetables. The bowels should be opened when necessary with an enema.

In acute widespread eczema it is desirable to inaugurate the treatment with free catharsis. This is best done by means of the salines, either alone or preceded by calomel.

In some eczemas in children, *Elliott's formula of castor oil* and minute doses of calomel will be found useful. Calomel in small doses is an excellent intestinal antiseptic.

℞. Hydrargyri; chloridi mitis..... gr. $\frac{1}{100}$
Ol. ricini,
Mist. cretæ,
Aquæ.....āā ♏xv

Digestives.—Excess or deficiency of hydrochloric acid in the stomach should receive appropriate treatment. Diet is of course an important factor in the treatment of such conditions.

Intestinal Toxemias.—At times great benefit will be derived from the use of colonic irrigation, properly carried out. A course of this treatment given by a skilled nurse, will often cure constipation and the toxin absorption which is prone to result from this condition. Some of the intestinal intoxications are due to putrefactive poisons owing to the ingestion of animal proteins: In other cases the cause is resident in carbohydrates.

Diuretics.—Diuretics are often of value both in acute and subacute eczema in gouty subjects who are insufficient water drinkers. The acetate, citrate, and bicarbonate of potassium, or soda in ten- to twenty-grain doses, may be given one-half hour before meals, or the alkaline mineral waters may be employed.

Alteratives.—Arsenic is rarely of value in the treatment of eczema. It is a much abused drug and usually does more harm than good.

Small doses of corrosive sublimate are sometimes of value in certain chronic thickened eczemas (Duhring).

The wine of antimony is sometimes given with good results in the treatment of acute eczema in plethoric individuals. In patients with evidences of hypothyroidism, benefit may be derived from the use of small doses of thyroid extract. Other endocrine causes are not as yet well established.

Tonics.—In tuberculous individuals with glandular enlargement *cod-liver oil* is a remedy of the greatest efficacy. In anemic and frail patients, iron in one of its assimilable forms is useful, as is also a generous diet, particularly the ingestion of liver, kidneys, brain, etc.

Strychnin and quinin are at times employed with benefit in eczema.

Local Treatment.—The local treatment of eczema is of great importance. The selection of remedies and their strengths must be governed by the grade of inflammatory reaction present. In an acute eczema the remedies cannot be too soothing. Too strong an application works immediate injury; too weak an application can do no worse than fail to do good.

Water is an irritant in all acute and subacute eczemas, and is to be used as infrequently as is compatible with cleanliness. It may be made less irritant by the addition of bran, starch or borax. In indolent chronic eczemas soap and water are of therapeutic value. They are useful at times also to remove crusts in the acute varieties. It is, however, a better plan to remove crusts by the process of softening. Pieces of flannel soaked in linseed or olive oil kept in contact with crusts for some hours will soften and loosen them; if they are very adherent, a lukewarm starch or flaxseed poultice may be applied. Pastes and salves should likewise be removed from the skin by oily and unguentous substances. Petrolatum (vaselin) or olive oil, and not soap and water, should be employed for this purpose.

Acute Eczema.—At the onset of a vesicular eczema *dusting powders* may be used with advantage. Many substances have been employed for this purpose: wheat starch, cornstarch, rice flour, bismuth, subnitrate, talcum, magnesium carbonate (most absorbent), zinc oxide, boric acid, kaolin, etc. The following is a useful combination:

℞. Talci venet.,
Zinci oxidi.....āā ʒss
Amyli..... ʒj

Or, if a more astringent one is desired:

℞. Bismuth. subnitrat.,
Acidi borici.....āā ʒij
Amyli..... ʒss

Lotions are of paramount value in moist eczemas. They are, as a rule, borne much better than ointments. The simplest is a saturated solution of boric acid. This has been found to be just as soothing to the skin as it is to mucous membranes. Sopped on every hour or preferably used as moist compresses in acute eczema, it acts admirably in reducing inflammation. In acute weeping eczema one of the best applications is compresses of a dram each of boric acid and pure resorcin in a quart of water. In some cases Burow's solution (Liq. aluminia acetatis) diluted 1 part to 20 of water acts equally well. The following formula combines the advantages of a lotion and dusting-powder:

℞. Zinci oxidi..... ʒiij
Glycerini..... f ʒj
Liquor calcis.....q.s.ad..... f ʒvj
Sig.—Use locally.

The calamin lotion is also a most efficacious application:

℞. Pulv. calaminæ,
Pulv. zinci oxidi.....āā ʒj-iij
Glycerini..... f ʒij
Liquor calcis.....q.s.ad..... f ʒvj
This leaves a powdery precipitate upon the skin.

A two per cent. aqueous solution of resorcin is a valuable antipruritic and antiphlogistic lotion.

When there is much itching carbolic acid may be added to any of the above washes.

℞. Acidi carbolici ..... ♏xxx-f ℥j
Acidi borici ..... ℥j
Glycerini ..... f ℥j
Aquæ ..... f ℥vj

A favorite treatment with many dermatologists is the use of the "lotio nigra" (black wash), either pure or diluted one-half with lime water: This is to be followed by the plain oxid of zinc ointment. The "liquor carbonis detergens" (or tincture of mineral tar),* in the strength of a dram to four ounces, is a most useful application in papular eczema.

The following lotion is a most excellent one for all acute inflammatory conditions of the skin. It will almost invariably yield good results:

℞. Acidi boric ..... ℥i
Resorcinolis ..... ℥i
Pulv. Zinci oxidi ..... ℥i
Aquæ hamamelidis ..... f ℥ii
Glycerin ..... ℥i
Aquæ q.s ..... f ℥vi

Soothing ointments are frequently employed in acute eczema. Care must be exercised to make them weak and unirritating. Either of the following formulæ may be used with good results:

* Tincture soap-bark ..... 9 ozs.
Coal-tar ..... 4 ozs.
Allow to digest for eight days and filter.

℞. Acidi borici..... gr. xxx
Ung. aquæ rosæ..... f ℥j

Or—

℞. Acidi salicylici..... gr. x
Lassar's paste. { Pulv. amyli,
Zinci oxidi.....āā ℥ij
Petrolati..... ℥ss

A very old and efficient remedy in acute eczema is the diachylon ointment of Hebra. It must be freshly prepared and should be applied upon strips of soft linen:

℞. Olei olivæ..... f ℥xv
Lithargyri..... ℥iij-v
Aquæ, q. s.
Sig.—Coqet. Ft. ung.

Subacute Eczema.—When the stage of acute inflammation has subsided, more stimulating applications may be used. Carbolic acid, menthol, and the tar preparations are the most valuable antipruritics. The following formulæ containing carbolic acid are useful in the subacute forms of eczema:

℞. Acidi carbolici..... gr. x
Pulv. amyli,
Zinci oxidi.....āā ℥ij
Petrolati..... ℥ss

Or—

℞. Acidi carbolici..... gr. x.
Hydrargyri chloridi mitis..... gr. xv-xxx
Ung. zinci oxidi..... ℥i

Or the following may be employed:

℞. Resorcini..... gr. xv
Menthol..... gr. v.
Ung. zinci oxidi..... ℥j

The annexed formula is particularly useful in subacute squamous eczema of the hands and feet:

℞. Acidi salicylici..... gr. xx
Lanolini,
Petrolati.....āā ℥ss

Chronic Eczema.—In this form of eczema strong applications are required to promote absorption of the infiltrate. Here the tar preparations find their greatest field of usefulness. They are never to be used in acute eczema, and only with caution in the subacute form. Tar is of great value in relieving the itching of obstinate papular eczemas. It may be incorporated in ointments, lotions or paints:

℞. Ol. cadini or ung. picis liq..... ℥j-ij
Ung. zinci oxidi..... ℥j

The "liquor picis alkalinus" is an excellent remedy in sluggish and thickened eczemas:

℞. Picis liquidæ..... ℥ij
Potassæ causticæ..... ℥j
Aquæ..... ℥v

Dissolve the potash in water and add slowly to the tar in a mortar with friction. To be diluted twenty times or more.

In recurrent papular eczemas, with violent itching, the following may be highly recommended:

℞. Ol. cadini..... f ℥j
Collodii (flexible)..... f ℥j

Coal tar pastes have come into great vogue in the treatment of acute as well as chronic eczemas. In some cases they act admirably, in others they fail. Much is due to the source of the coal tar and to the manner in which the paste is compounded. Coal tar is less irritant than the vegetable tars. The following preparation is the one usually employed:

℞. Coal tar..... gr. xxx
Pulv. zinc oxide..... gr. xxx
M. et add
Vaselini et Pulv, Amyli.....āā ℥ss

In leathery patches the pure oil of cade may be rubbed in with excellent results.

In pustular eczema the preparations of mercury are particularly valuable:

℞. Hydrargyri chloridi mit..... gr. x-xx
Ung. zinci oxidi..... ℥j

For horny eczemas of the hands, nothing equals a ten to twenty-five per cent. plaster of salicylic acid.

Good results are often obtained with the following ointment:

Resorcini.....
Acidi Salicylici..... āā gr. xlv
Lanolini et Vaselini..... āā ℥iv

An application much employed in Europe, in the treatment of eczema, is the glycogelatin fixed dressing of Unna. It is of particular value in those cases of eczema in which no oily or unguentous application is tolerated. It should only be employed upon the non-hairy skin. It should be used in vesicular or moist eczema. It is made up of

Gelatin..... 15 parts
Glycerin..... 15 parts
Oxid of zinc..... 30 parts
Water..... 40 parts

To the above may be added five per cent. of ichthyol or two per cent. of salicylic or carbolic acid. At the temperature of the air this combination has the consistence of a firm jelly, which is heated upon a water-bath (a double boiler is a handy receptacle for it) until it can be easily poured. It is then painted upon the skin and the part covered with a thin layer of absorbent cotton. This becomes quite dry in about ten minutes, when the excess of cotton may be stripped off. A firm impermeable covering is thus formed. It relieves itching admirably, probably by excluding the air. It is of particular value in dry subacute eczema.

In chronic circumscribed sluggish eczemas of the leg, when other remedies fail, the soft-soap and diachylon treatment

may be tried. This consists in briskly rubbing the leg with soft-soap and subduing the reactive congestion by diachylon ointment applied upon strips of linen.

In addition to the above-mentioned local measures used in the treatment of eczema, *baths* are sometimes resorted to. The most frequently employed medicated baths are those containing starch, soda, borax, or bran.

A remedy of very great value in the treatment of many eczemas is the *X-ray*. It is our best agent in the recurrent vesicular eczemas of the hands and feet. It is likewise of value in other types associated with marked itching. The dosage of *X-ray* applied and the frequency of treatment will be largely guided by the skill of the operator. Great care must be exercised to avoid producing an X-ray dermatitis, for such a result may seriously and irretrievably complicate the cure of the eczema, and prevent treatment later by other remedies. I would particularly caution against the too protracted use of the Roentgen ray, unless the condition is distinctly improved by a half dozen fractional dose treatments it should be abandoned. Violation of this caution may lead to disaster.

DERMATITIS SEBORRHOICA—ECZEMA SEBORRHOICUM

Synonyms.—Seborrheic eczema; seborrhœa corporis.

Definition.—Dermatitis seborrhoica is an inflammatory disease of the skin, beginning usually upon the scalp, and characterized by scaliness, redness and fatty hypersecretion, with a tendency to downward extension.

Symptoms.—The disease almost invariably begins upon the scalp, to which it may remain limited or spread to adjacent parts. It is characterized by the formation of branny, grayish-yellow, dry or greasy scales situated upon a diffusely reddened base. In other cases there are circumscribed patches

of yellowish-red color, covered with greasy scales or crusts. These are most apt to appear upon the hairy border of the forehead, the eyebrows, mustache, beard, in the nasolabial fold, and at times in the axillæ.

FIG. 18.—SEBORRHOIC DERMATITIS.

The sternal and interscapular regions are the favorite seats of the papular variety. This occurs as circinate or crescentic yellowish-red, elevated, slightly scaly patches (seborrhea corporis of Duhring).

The subjective symptoms in seborrheic dermatitis are usually less severe than in true eczema.

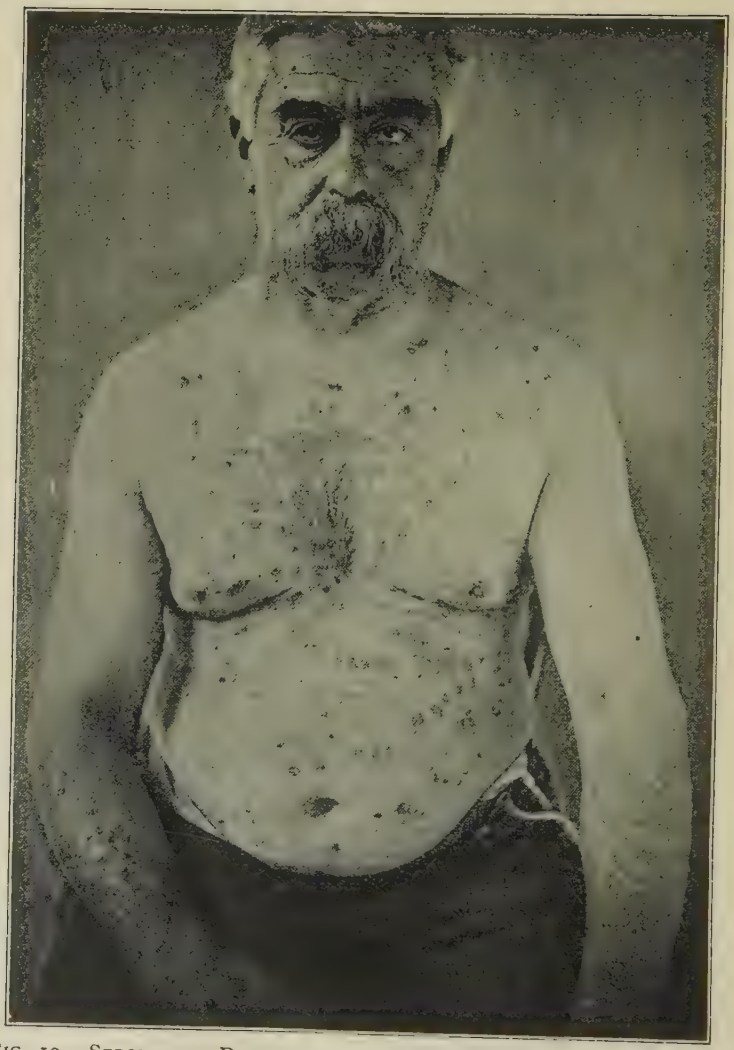


FIG. 19.—SEBORRHEIC DERMATITIS (SEBORRHÆA CORPORIS OF DUHRING).

The course is at times acute, but is more apt to run over a considerable period of time.

Etiology.—The disease is in all probability due to a cutaneous microbe. Perhaps the pityrosporon or bottle bacillus. A favorable soil is doubtless necessary for the disease to be transmitted. Factors which produce systemic depression favor the development of the disease.

Pathology.—A perivascular round-cell infiltration is observed even in mild cases. In the more severe ones the entire cutis is the seat of such infiltration. The sebaceous and sudoriparous glands do not seem to be involved, at least primarily so.

Diagnosis.—The disease is to be differentiated from pityriasis rosea, eczema and psoriasis. The primary involvement of the scalp and extension therefrom, the superficial seat of the lesions, the yellowish-red color, the tendency to the formation of circinate and crescentic patches, the greasy scales and crusts and the slight amount of itching will serve to distinguish this affection.

Prognosis.—The prognosis is favorable, although relapses are not uncommon.

Treatment.—Any discoverable deviation from health should receive appropriate treatment. Sulphur, salicylic acid, the mercurials, tar, ichthyol, and resorcin are the most useful local remedies. Upon the scalp lotions and ointments may be employed either alone or upon alternate nights. The following lotion frequently brings about a satisfactory improvement:

℞. Resorcini ..... ℥ij
Glycerini ..... f ℥j
Spts. Vini Recti ..... f ℥iv
Aquæ ..... q.s. ℥vi
Sig.—Apply each night.

I have often seen excellent results from the alternate use of the resorcin alcohol and an ointment containing.

℞. Sulph. Præcip..... ʒj
Adipis..... ʒj
Olei Bergamotti..... ♏xxx
Sig.—Apply every second night, rubbing well into the scalp.

For seborrheic dermatitis of the face good results will often be obtained with a mercurial ointment such as the following.

℞. Acidi Salicylici..... gr. viii
Hydrarg. Oxidi flav..... gr. v.
Vaselini..... ʒi
M. S. Apply at night.

Ichthyol although an unclean preparation, may often be used with excellent results. It may be incorporated in aqueous solution or in an ointment base, in the strength of one dram to the ounce.

In some cases autogenous vaccines are of value.

IMPETIGO CONTAGIOSA

Derivation.—*Impetere*, to attack.

Definition.—Impetigo contagiosa is an acute, contagious, inflammatory disease of the skin, characterized by discrete, flat, superficial vesicles or blebs, which rapidly become pustular and dry upon the skin as thin crusts.

Symptoms.—The eruption is most common upon the face and hands. The lesions begin as flat vesicles or blebs, which in the course of twenty-four hours, become vesico-pustular or pustular. Rupture soon occurs, the exudate drying upon the skin as thin, wafer-like crusts, which appear to be "stuck on." The edges of the crusts become detached, curl up, and the crusts drop off, exposing to view reddish spots, which soon fade. The lesions at times show a tendency to umbilication. A coalescence of neighboring pustules may occur, leading to the formation of patches of considerable size. In severe cases there may be slight febrile disturbance. Itching is slight or absent.

FIG. 20.—IMPETIGO CONTAGIOSA.

Occasionally the eruption takes on a circinate form. A striking and unique example is pictured in the accompanying

FIG. 21.—ANNULAR AND SERPIGINOUS TYPE OF IMPETIGO CONTAGIOSA.—A rare form.

photograph (Fig. 18). There are several typical lesions upon the face.

Impetigo simplex is a name given by Duhring to a form of impetigo that differs from the usual type in that the lesions

are primarily pustules, have thick walls, are globular and do not tend to rupture, coalescence or umbilication. This form is said to be of staphylococcic origin.

FIG. 22.—BULLOUS TYPE OF IMPETIGO CONTAGIOSA.

Etiology.—The affection is commonly seen in poor children. Impetigo simplex is apt to accompany pediculosis capitis,

as the result of scratching. Epidemics of contagious impetigo are not uncommon in institutions for children and in summer camps. Barber shop transmission is a fertile source of the disease in men.

Pathology.—The affection is caused by inoculation with pyogenic micro-organisms, chiefly streptococci.

Diagnosis.—The chief characteristics are the discreteness, superficiality and auto-inoculability of the lesions.

Prognosis.—The affection may be cured in a week or ten days, or, indeed, in some cases may get well spontaneously.

Treatment.—The crusts are to be removed with soap and warm water, after which the following ointment may be used:

℞. Hydrarg. ammoniat..... gr. x.
Petrolati, or..... ℥j.
Ung. zinci oxidi.

I would caution against too strong mercurial ointments. The above is strong enough.

On the smooth skin surface, a heavy ointment base may advantageously be employed. In the bearded region, petrolatum should be used as a base.

In order to prevent auto-inoculation a lotion of the bichlorid of mercury such as the following may be frequently sopped or sprayed upon the affected skin and the adjacent areas during the day.

℞. Hydrargyri chloridi corrosivi..... gr. j
Glycerini..... f ℥j
Aquæ.....q.s.ad..... f ℥vi
M. S.—Spray upon the face every hour or two.

Care should be exercised not to employ remedies which are too strong; otherwise the process will be aggravated rather than benefited.

IMPETIGO HERPETIFORMIS

Definition.—An inflammatory disease of the skin characterized by the appearance of miliary pustules arranged annularly or in clusters, attended by constitutional disturbances, occurring usually in puerperal women, and generally fatal.

Symptoms.—The lesions are small, superficial pustules, which come out in successive crops and are arranged in groups which heal in the center and spread by peripheral extension. Elevation of temperature and chills accompany each outbreak. Dry tongue, vomiting, diarrhea, albuminuria and delirium are apt to supervene and death result. The anterior surface of the trunk, the thighs and inguinal regions are the seats of predilection.

Etiology.—Nearly all cases have been observed in pregnant women.

Pathology.—The process is looked upon as pyemic or septicemic in character.

Prognosis.—The disease is extremely fatal. A few cases have recovered.

Treatment.—Supportive and based upon general principles. Locally, antiphlogistic lotions.

ECTHYMA

Derivation.—'Εχθημα, a pustule.

Definition.—The term ecthyma is applied to an eruption characterized by discrete, flat deep-seated pustules with broad inflammatory bases. Many dermatologists no longer look upon ecthyma as a distinct disease, but rather as a form of dermic pus infection.

Symptoms.—The lesions, which are usually situated upon the legs, begin as small pea-sized pustules which rapidly increase until the size of a dime is attained. They are discrete, flat and surrounded by a markedly reddened and often infiltrated zone. When ruptures take place an irregular yellowish

or brownish crust is formed, beneath which suppuration goes on. Pigmentation or superficial scarring may persist after the disappearance of the lesions.

Etiology and Pathology.—Debility, bad food, and improper hygiene are said to play an important predisposing role. The eruption attacks adults rather than children. The exciting cause, is in all probability, the introduction of a micro-organism into the cutaneous follicular openings. It is evident that scratching would greatly facilitate such an inoculation.

Diagnosis.—Ecthyma is to be differentiated from contagious impetigo, pustular eczema, and the large, flat, pustular syphiloderm.

Ecthyma	Impetigo Contagiosa
1. Seat of predilection, the legs.	1. Face and hands.
2. Primarily pustular.	2. Primarily vesicular.
3. Pustules deep.	3. Pustules superficial.
4. Marked inflammatory areola.	4. No inflammatory areola.
5. More common in adults.	5. More common in children.
6. Noncontagious.	6. Contagious.

Ecthyma	Pustular Eczema
1. Seat of predilection, the legs.	1. Indefinite localization.
2. Pustules discrete.	2. Grouped, often coalescing.
3. Pustules large and flat.	3. Small and round or acuminate.
4. Red and infiltrated areola.	4. No inflammatory areola.
5. More common in adults.	5. More common in children.

Ecthyma may be distinguished from the pustular syphiloderm by the more inflammatory character of the lesions, the absence of true ulceration, the distribution of the lesions, and the absence of other signs of syphilis and a negative Wassermann reaction.

Prognosis.—The affection responds promptly to treatment.

Treatment.—Tonics, good food and improved hygiene are to be advised. The local treatment consists of the removal of the crusts and the application of an ointment such as the following:

℞. Hydrarg. ammoniat..... gr. xxx
Ung. zinci oxidi..... ʒi

DERMATITIS HERPETIFORMIS

Synonyms.—Duhring's disease; hydroa; herpes gestationis.

Definition.—Dermatitis herpetiformis is an inflammatory disease of the skin, characterized by grouped erythematous, papular, vesicular, pustular, and bullous lesions occurring in varied combinations, accompanied by burning and itching, and running a chronic course with remissions.

Symptoms.—In severe cases there are elevation of temperature, malaise, chilliness, etc. The eruption may appear gradually or suddenly.

The erythematous, vesicular, bullous, pustular, and multiform eruptions are the common varieties of the disease. There is a distinct tendency for one variety to pass into another variety—for instance, for the vesicular to become pustular or bullous, or the reverse. Burning and itching are practically always present, and in some cases are intense. The extreme itching is one of the differentiating features that distinguishes the disease from pemphigus.

Erythematous Variety.—This form occurs in marginate patches or diffuse efflorescenses resembling erythema multiforme. Urticaria-like edematous infiltrations may also occur. The color may be raspberry-red, mottled and tinged with yellowish, brownish, or variegated, with later a variable degree of pigmentation. Erythemato-papular and vesicular lesions often coexist. Itching and burning are marked.

Vesicular Variety.—This is the most common form. It is marked by pinhead- to pea-sized flat or raised, irregularly shaped or stellate, distended vesicles, frequently without an inflammatory areola. They are usually aggregated in clusters of three or four lesions. They tend often to coalescence, but not to rupture. Itching is severe, often intense, but abates

considerably upon rupture or laceration of the vesicles. The eruption comes out in crops, which often succeed each other with great rapidity.

Bullous Variety.—The lesions consist of distended, irregular-shaped, angular bullæ, occurring in groups of three or four, often without areolæ. Small pustules frequently appear in the neighborhood, and erythematous and vesicular lesions may likewise be present. Itching and burning are severe.

Pustular Variety.—Two kinds of pustules appear: the one small (miliary), pinpoint- to pinhead-sized and perfectly flat; the other large, elevated, rounded or acuminated, and situated upon an inflammatory base. There is a tendency to arrangement in clusters of three or four. Vesicles and blebs may complicate the eruption, although the pustular type often remains as such, even throughout successive outbreaks.

Papular Variety.—Rare. It is the mildest expression of the disease. More commonly, papulovesicles resembling an abortive herpes zoster develop.

Multiform Variety.—This is a polymorphous form in which erythematous patches, papules, vesicles, blebs, pustules, and pigmentation in various combinations are commingled.

The course of dermatitis herpetiformis is variable, but in nearly all cases is eminently chronic, lasting for years in the form of relapses, or indeed, at times continuously.

Etiology.—The disease occurs most often between the ages of thirty and sixty. It is due to various causes, among which may be mentioned physical and psychic shock, pregnancy, disordered menstruation, puerperal septicemia, intestinal autointoxication and renal insufficiency; I rather suspect intestinal poisons to be one of the most common causative factors. There is in most cases a lowering of the general nerve-tone.

Pathology.—There is an acute inflammation of the papillary layer of the corium, with the formation of vesicles between the corium and epidermis and the exudation of large numbers

of polymorphonuclear leukocytes and eosinophiles. The epidermis is but secondarily involved.

Diagnosis.—The polymorphism and herpetiformity of the eruption, the intense itching, and the history, course, and chronicity of the disease will enable one to distinguish it from pemphigus, erythema multiforme, and impetigo herpetiformis—diseases which it at times closely resembles.

The vesicles and blebs of dermatitis herpetiformis are peculiar in that they are often of marked irregular outline—sometimes stellate, quadrate, or oblong, etc. In drying they are apt to present a puckered appearance.

They are *herpetiform* in that they occur in groups, have inflammatory bases, and do not tend to spontaneous rupture, resembling in these respects the lesions of herpes zoster.

Prognosis.—Guarded. The disease is persistent and commonly refractory to treatment. In addition, there is a strong tendency to recurrence. Dermatitis herpetiformis is rarely fatal, contrasting strongly in this respect with pemphigus.

Treatment.—The first effort should be directed toward the removal or modification of the underlying cause, if ascertainable. The nervous system is often at fault, and remedies should be administered with a view of restoring the normal nerve-tone. There are no specifics, but arsenic often acts in a gratifying manner. It should be given in ascending doses by mouth if well born; if not, intramuscularly until an impression is made upon the disease or upon the patient. In other cases, however, it is of no value. Phenacetin, cannabis indica, and belladonna may be tried, and such tonics as quinin, strychnin, and iron are sometimes of value. Remedies directed to the prevention of constipation and intestinal autointoxication are often indicated. In some cases the intravenous administration of foreign proteins exerts a decidedly beneficial effect.

Local Treatment.—Blebs should be incised or punctured and the contents evacuated. Lotions containing tar, carbolic acid,

ichthyol, and resorcin are useful. These may be followed by soothing and protective ointments.

PEMPHIGUS

Derivation.—Πέμφιξ, a blister.

Definition.—Pemphigus is an acute or chronic inflammatory disease of the skin, characterized by the formation of successive crops of variously sized, rounded or oval bullæ, affecting seriously the general health and often terminating fatally.

Symptoms.—There are 3 principal types—pemphigus vulgaris, pemphigus foliaceus, and pemphigus vegetans. In rare cases an acute febrile type occurs.

Pemphigus Vulgaris.—With or without febrile disturbance, there appear upon the limbs, face or trunk, pea- to egg-sized, rounded or oval tense blebs. They rise abruptly from the normal skin, and, while having at times a slightly reddened base, have no areola. The contained fluid is at first serous, later becoming turbid and purulent. The eruption occurs in crops, a half-dozen or more blebs appearing at a time. These persist for a few days (the fluid disappearing by absorption or rupture), and are then followed by another crop.

The parts most often affected are, in their order of frequency, the limbs, the face, and the trunk. The mouth, vagina, conjunctiva, and other mucous membranes may become involved. Not infrequently the first blebs appear upon the mucous membrane of the lips or mouth.

Pemphigus Foliaceus.—In this form the blebs, which are *flaccid* and purulent, rupture before distention and dry to crusts, which are thrown off with the surrounding epidermis, exposing to view the reddened corium. A new crop of blebs succeeds the old, often developing upon the same site, and giving to the skin the appearance of a severe scald. The entire cutaneous surface may thus become involved, and the

general health of seriously compromised. The process lasts for months, and almost always leads to a fatal termination.

FIG. 23.—ACUTE BULLOUS ERUPTION RESEMBLING PEMPHIGUS.

Neumann has described a rare form of pemphigus characterized by the development of wart-like or papillary vegetations

upon the sites of ruptured bullæ. This form he has called *pemphigus vegetans*. The mouth, vagina or other mucous membranes are often first affected. The favorite situations upon the skin are the genital and anal regions, the neck, axillæ, the flexures of the extremities. The affection lasts months or years, and tends to a fatal termination. The *subjective* phenomena in pemphigus are itching and burning (usually moderate in degree), and often tenderness, pain, and a feeling of tension. The disease is rare, but appears to be on the increase.

Acute Febrile Pemphigus.—Another type of the disease occurs in butchers and those who handle dead carcasses. Commonly the condition comes on after a wound of the hand. Occasionally a whitlow may be present at the site of infection. In 24 to 48 hours numerous blebs appear, accompanied by chills, high fever and delirium. About 75 per cent. of the cases terminate fatally, usually in one to three weeks.

Etiology.—Pemphigus is an infectious disease but the manner of entrance of the causative parasite is unknown. Streptococci, diplococci and bacilli are found in various cases in blood cultures and a bacillus has been described.

Pathology.—The blebs are usually situated between the horny layer and the rete mucosum, but may occur at any depth in the epidermis. The contents of the bullæ consist of a slightly alkaline serum containing a few leukocytes. There is dilatation of the papillary vessels and a leukocytic infiltration of the papillæ, corium, and subcutaneous tissue.

Diagnosis.—It should be remembered that all bullous eruptions are not pemphigus. Care should be exercised to differentiate the bullous forms of erythema multiforme, dermatitis herpetiformis, impetigo contagiosa, and syphilis (pemphigus syphiliticus of the older writers). The bleb of pemphigus is large, tense, abruptly elevated, noninflammatory, and comes out in crops. These characteristics, with the history

and course of the disease, should enable one to make the diagnosis.

Prognosis.—Mild acute cases may recover after a duration of weeks or months. Severe cases (particularly pemphigus foliaceus) nearly always end fatally. The occurrence of flaccid or hemorrhagic blebs, extensive cutaneous involvement, frequent outbreaks and septic symptoms are all unfavorable signs. Pemphigus is less fatal in American born than in Jews of Russian, Galician or Roumanian birth. Their resisting power to this infection seems to be particularly low.

Treatment.—Both internal and local treatment are to be employed, the former alone, however, being curative. Arsenic is by no means as valuable as it is in dermatitis herpetiformis but is nevertheless our best remedy. It may be perseveringly tried, beginning with small doses and increasing until the physiologic limit is reached. It is best given intramuscularly. Quinin in full doses is at times of value, as are also iron, strychnin, and cod-liver oil. Nutritious food, good hygiene, and bodily and mental rest are important therapeutic factors. The intravenous administration of foreign proteins excited a distinctly favorable influence in a case of pemphigus foliaceus under my care. Davis of St. Louis advocates the alternate daily use of iron cacodylate in 3 gr. doses intravenously and a preparation of blood platelets (coagulin) intramuscularly, for long periods. A number of cures are reported. In a few cases in which I had tried it, it has failed. The intravenous use of mercurials should be tried.

Local treatment is designed to heal the abraded surfaces and to relieve the subjective symptoms. The blebs should be evacuated, and simple dusting powders, ointments or lotions applied. The calamin lotion is a most grateful application. Bran and starch baths are useful in extensive cases. In pemphigus foliaceus the *continuous* bath is perhaps the best treatment, the patient living day and night, for weeks and months, immersed in water.

In severe cases it may be worth while to try the use of autogenous vaccines made from blood cultures. Blood transfusion has been recommended.

POMPHOLYX

Derivation.—Πομφόλυ, a bubble.

Synonyms.—Cheiropompholyx; dysidrosis.

Definition.—Pompholyx is an acute inflammatory disease of the skin characterized by the development of numerous hard, deep-seated vesicles upon the hands and feet.

Symptoms.—The affection attacks symmetrically the hands and feet, although the latter may escape involvement. When the hands are involved numerous deep-seated, tense vesicles are seen upon the lateral aspects of the fingers and upon the palms. They have been aptly likened to boiled sago grains embedded in the skin. A feeling of heat, burning, tingling or itching is nearly always present. The vesicles may remain discrete or may coalesce and form bullæ; often the fluid becomes absorbed and the eruption appears in the course of a few days to a week. In these cases new lesions may continue to form, the surrounding skin becoming sodden and painful, and later exfoliating. There is sometimes an accompanying hyperidrosis. Recurrences are quite common, the various attacks differing greatly in intensity. Constitutional manifestations are absent.

Etiology.—The affection occurs in individuals whose nerve-tone is below normal. It is commonly associated with an increased perspiration of the hands. It is more frequent in women than in men, and is observed chiefly in adult life. *Many cases heretofore regarded as pompholyx have been shown to be forms of eczematoid ringworm.*

Pathology.—In true cases the disease is probably a vasomotor neurosis, but while some authors hold to the view that the affection is primarily one involving the sweat apparatus

others declare its independence of the sweat structures. The vesicles lie in the lower layers of the rete mucosum. Their contents are of neutral or alkaline reaction.

Diagnosis. — From vesicular eczema of the hands pompholyx may be distinguished by the localization of the lesions upon the lateral and palmar surfaces, the hardness of the vesicles, their tendency to persist unruptured, the mild inflammatory signs, the presence of burning rather than itching, and the course of the disease. Within recent years it has been discovered that some cases of apparent pompholyx are forms of *eczematoid ringworm*. Microscopic examination of the wall of the vesicle, will under such circumstances, disclose the presence of the fungus.

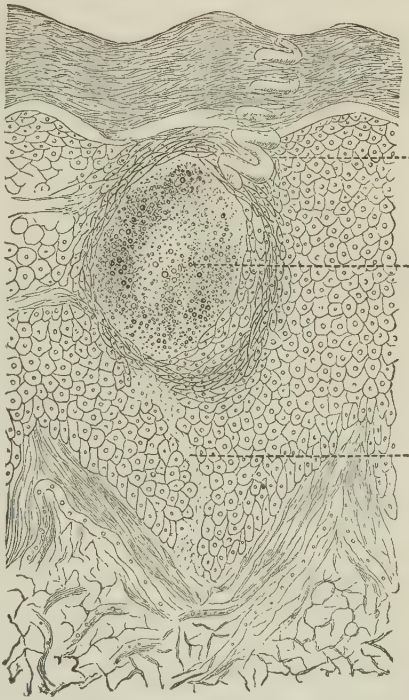


FIG. 24.—POMPHOLYX.—(*After Crocker.*)
b. Vesicle formed in the interpapillary portion of the rete directly in the course of the sweat channel *a* and *c*.

Prognosis.—Acute attacks usually subside in a fortnight. Recurrences are extremely common.

Treatment.—Good hygiene and tonics such as quinin, strychnin, iron, and arsenic are of value. Locally, the following may be employed:

℞. Acidi salicylici..... gr. xx
Acidi borici..... gr. xxx
Pulv. amyli,
Zinci oxidi.....āā ʒij
Petrolati..... ʒiv

Instead of this one may use oleate of zinc, saturated solution of boric acid, diachylon ointment, etc.

The most valuable remedy consists in the use of the X-rays.

HERPES SIMPLEX

Derivation.—"Ἑρπειν, to creep.

Synonyms.—Fever blisters; "cold sore."

Definition.—Herpes simplex is an acute inflammatory disease of the skin, characterized by the formation of small groups of closely aggregated vesicles upon reddened bases.

Symptoms.—There are two chief varieties, according to localization—(1) *herpes facialis*, (2) *herpes progenitalis*.

Herpes facialis (herpes febrilis, herpes labialis) has its favorite seat near the oral commissures, where it makes its appearance as closely aggregated pinhead- to pea-sized vesicles, which, through coalescence, often form small bullæ. The lesions soon become pustular, rupture, and dry as yellowish or brownish crusts upon the skin. Vesicles sometimes develop upon the mucous membrane of the mouth, where they are called by the laity "canker sores." Herpes runs its course in from five to ten days. Burning and itching are usually present.

Etiology and Pathology.—Herpes facialis is extremely prone to accompany acute diseases, particularly pneumonia, cerebro-spinal meningitis, and malaria. It may also occur in coryza, and gastric and nervous disturbances. Some persons are subject to recurrent attacks of herpes in the same region without apparent cause. In other persons exposure to the sun's rays or to the impact of winds may excite herpetic outbreaks. Goodpasture and Teague have shown that the

contents of herpes vesicles when inoculated upon the scarified cornea of a rabbit will produce a fibrino-purulent ophthalmia leading to encephalitis and in some cases myelitis usually ending fatally. The infection can be continued in a series of laboratory animals. The parasite has not been isolated but is filterable.

Prognosis.—Favorable. Eruption disappears spontaneously in a week or ten days. Some persons are subject to frequent recurrences.

Treatment.—Mild, sedative applications, such as oxid of zinc ointment, cold cream, saturated solution of boric acid, etc., weak solution of sulphate of copper, are all that is necessary. In children, painting with collodion or compound tincture of benzoin protects the part from finger infection.

Herpes genitalis (herpes preputialis) occurs both in the male and in the female. The groups of vesicles in the former are located upon the inner surface of the prepuce, glans penis, shaft of the penis, etc.; in the female upon the labia minora, labia majora, vestibulum, perineum, etc. In these locations they may, through subsequent infection, become the sites of chancres or chancroids.

Etiology.—A long. narrow prepuce seems to act as a predisposing cause. Unna found herpes progenitalis much more frequent in prostitutes than in the chaste.

Diagnosis.—It is important to differentiate herpes from the more serious genital sores. It must not be forgotten that the abrasion at the site of a herpetic patch offers an easy ingress for the chancroidal or syphilitic virus.

Prognosis.—Favorable as to immediate attack. Recurrences are extremely common.

Treatment.—Cleanliness must be strictly enjoined. Astringent lotions, such as equal parts of lotio nigra and lime-water, and saturated solution of boric acid, or dusting-powders, such as aristol, calomel, or acetanilid, may be employed. Patients with long prepuces who are subject to frequent

attacks had better be circumcised. The long-continued administration of small doses of arsenic has been advised.

HERPES ZOSTER

Derivation.—Ἕρπειν, to creep; ζωστήρ, a girdle.
Synonyms.—Shingles; zoster; zona; cingulum.

Fig. 25.—Herpes Zoster Intercostalis.

Definition.—Herpes zoster is an acute inflammatory disease of the skin characterized by the formation of grouped vesicles along the lines of distribution of cutaneous nerves, and accompanied by neuralgic pains.

Symptoms.—After prodromal neuralgic pains, more or less severe in character, there appear in crops irregular groups of pinhead- to pea-sized vesicles, which follow in an interrupted manner the distribution of the nerve or nerves affected.

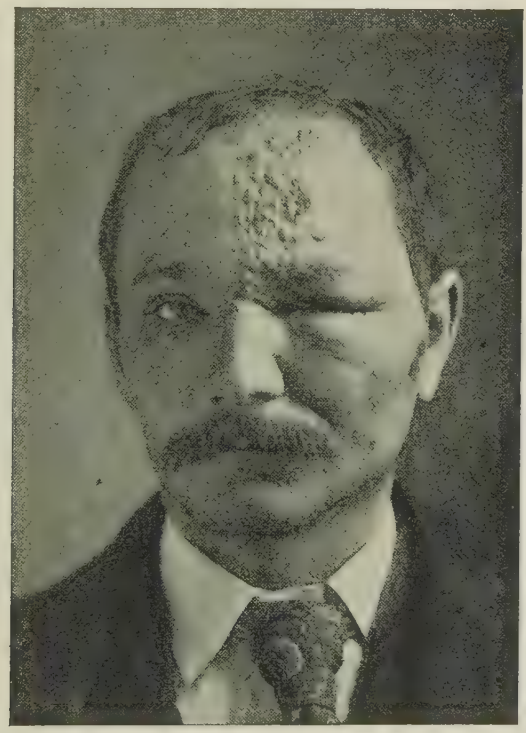


FIG. 26.—HERPES ZOSTER SUPRA-ORBITALIS.

When seen early, macules, papules, or vesico-papules may sometimes be distinguished. The vesicles rest upon a highly inflammatory base. The eruption is distinctly *unilateral*, bilateral cases being of great rarity.

In the course of one or two weeks the vesicles, which do not tend to spontaneous rupture, dry upon the skin as yellowish-

brown crusts and fall off. As a rule, no permanent trace is left, although in some cases there may be considerable scarring. The vesicles may become pustular, hemorrhagic, or even gangrenous.

FIG. 27.—HERPES ZOSTER CERVICOBRACHIALIS.—(*After Van Harlingen.*)

FIG. 28.—HERPES ZOSTER LUMBOFEMORALIS.—(*After Van Harlingen.*)

The most frequent regions affected are those supplied by the intercostal, lumbar, and trifacial nerves, although any portion of the cutaneous surface may be involved. In *herpes zoster ophthalmicus* severe destructive inflammation of the cornea, iris, and, indeed, of the entire eye, may occur in rare cases.

Pain is nearly always present. It may be slight or so severe as to prevent sleep. It is variously described as of a darting,

burning, drawing, or tugging character. It may persist indefinitely after the disappearance of the eruption, particularly in elderly individuals and may prove more refractory to treatment. In children, the pain is usually slight or absent.

In severe cases febrile disturbance may be present. Herpes zoster seldom occurs twice in the same individual.

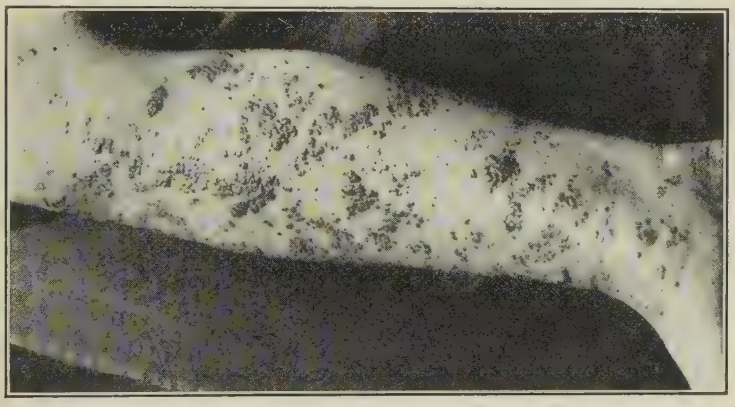


FIG. 29.—HERPES ZOSTER.

Etiology.—Atmospheric changes, exposure to cold and wet, may act as predisposing courses, but the true cause in at least the majority of cases is an infection. The parasite appears to have a selective affinity for nerve structure.

Mechanic violence to nerve, such as the pressure of a broken rib or a surgical operation has been followed by herpes zoster.

Herpes zoster is alleged to have been produced in the guinea pig by rubbing the contents of a vesicle into the scarified skin. The long-continued use of arsenic will at times produce zoster. It has likewise followed the intravenous injection of arsphenamine and neoarsphenamine. There is some evidence, although not yet conclusive, that an intimate relationship exists between herpes zoster and chickenpox. It is alleged

that one may give rise to the other. One should reserve an opinion on this question.

Pathology.—Zoster is due to an irritative or inflammatory lesion of the central spinal or peripheral nerve apparatus. The process is usually an interstitial descending neuritis of one of the spinal ganglia. There may, however, be merely a simple inflammation of a peripheral nerve.

Diagnosis.—A *unilateral* eruption, consisting of groups, of large vesicles upon an erythematous base, following the course of a cutaneous nerve and accompanied by neuritic pains, is characteristic of herpes zoster. The vesicles of zoster differ from those of eczema in being larger and in showing no tendency to spontaneous rupture.

Prognosis.—Favorable. Most cases get well spontaneously in one to three weeks. It should not be forgotten that some cases are followed by persistent neuralgia, especially in the aged, and that others may lead to scarring, or in the case of the ophthalmic form, to serious impairment or loss of vision.

Treatment.—*Local treatment* is concerned merely in protecting the parts from injury and infection and, to a certain extent, in the relief of pain. Ordinary dusting-powders, such as oxid of zinc, starch, talcum, etc., may be employed, or if there is much pain, morphin and camphor may be added:

℞. Morph. sulph..... gr. v
Pulv. camphor..... gr. xx
Pulv. zinci oxidi..... ℥j
Sig.—Dust on the affected area, cover with cotton, and bandage.

The calamine lotion is often a grateful application.

An excellent method is to paint the affected areas with collodion containing ichthyol.

℞. Ichthyol..... f ℥j
Collodii..... f ℥j

The galvanic current applied along the nerve often gives marked relief from the pain, as does likewise the use of the

X-rays. The latter method of treatment has given me excellent results, particularly in the relief of the post-zosteric pains.

Internal Treatment.—The pain is often so severe as to required the use of an anodyne. The following prescription will be found of service:

℞. Codeinæ sulph..... gr. ⅛–¼
Phenacetin..... gr. ij
Quininæ sulph..... gr. j.
Sig.—One capsule every four hours or oftener.

Phosphid of zinc in one-third of a grain doses every three hours is warmly advocated by some. In the neuralgia persisting after the disappearance of the eruption antipyrin, quinin, iron, strychnin, arsenic, the galvanic current and the X-rays are of value, particularly the latter. Unfiltered rays should be applied to the painful cutaneous areas and filtered rays to the affected spinal ganglia.

LICHEN PLANUS

Derivation.—Λειχνή, a lichen or moss.

Definition.—Lichen planus is an inflammatory disease characterized by the appearance of small, flat, angular, shining, bluish red papules associated as a rule, with pronounced itching.

Lichen Ruber Planus (Lichen Planus)

Lichen planus is a not uncommon disease. It may develop gradually or rapidly, appearing as pinhead- to pea-sized, flat, quadrangular or polygonal, shining, slightly umbilicated papules of a violaceous or reddish color. The lesions may be disseminated, but are more commonly closely aggregated in patches, which assume frequently a linear form. At times the lesions are distinctly annular. The surface of the papule is at first glazed or shining, later covered with fine whitish

scales. The favorite regions are the flexor surfaces of the forearm and wrist and the dorsal surfaces of the feet. When occurring upon the legs, the papules are apt to become confluent, with the formation of elevated plaques of a purplish color, occasionally lesions are seen upon the glans penis. A brownish pigmentation often persists after the disappearance of the lesions.

Itching is, in the majority of cases, a prominent and distressing symptom. The general health remains, as a rule, unaffected.

Etiology.—The disease is possibly of nerve origin. Although the question of a parasitic cause cannot be excluded. One commonly obtains a history of nervous exhaustion resulting from grief, worry, overwork, or some form of psychic shock. Digestive disturbances may also be etiologic factors. It is most frequently observed in adult life.

Pathology.—The pathologic process consists of a circumscribed lymphoid cell infiltration in the papillary layer of the corium. The papule is usually situated about a sweat-duct although a hair follicle may occupy the center. There is a hypertrophy of the cells of the rete mucosum (acanthosis), followed by epithelial atrophy and colloid degeneration. Hyperkeratosis or overgrowth of the horny layer is commonly associated.

Diagnosis.—The characteristic features of the papules of lichen planus are their angularity, flatness, shining surface, violaceous color, and umbilication. These points will differentiate the disease from papular eczema, psoriasis, and the papular syphilide. The papules of eczema are rounded, somewhat acuminate, brighter red in color, and have a different history.

Prognosis.—The prognosis is favorable, most cases recovering in a few months.

Treatment.—The treatment is both general and local. Attention to diet and hygiene should not be neglected.

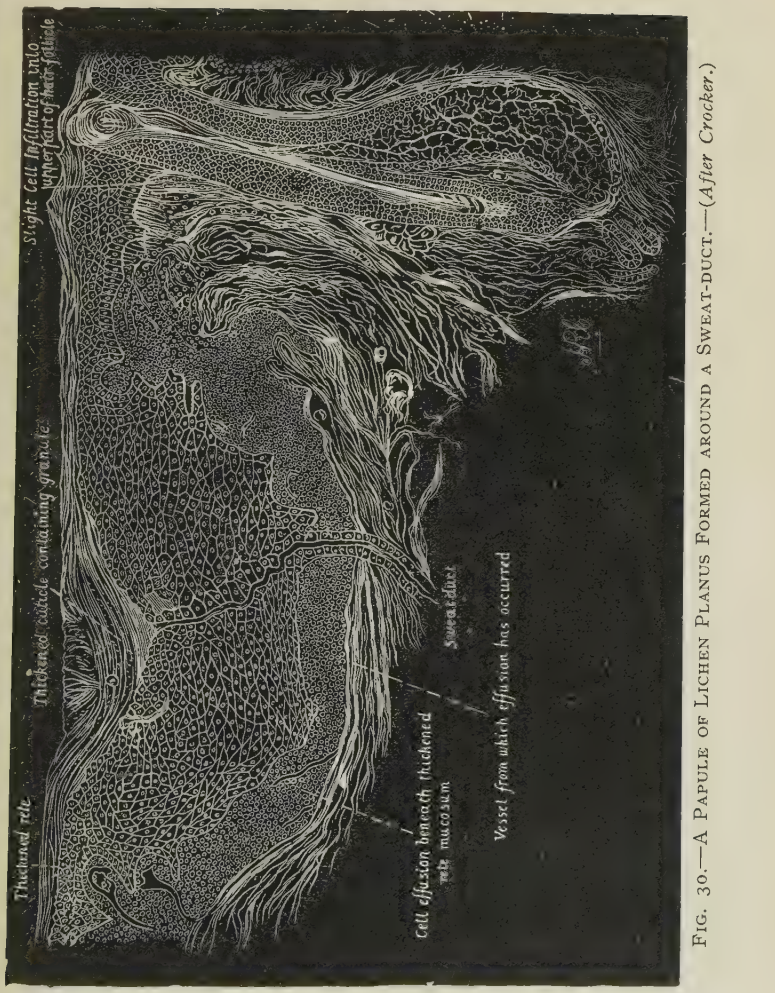

Thickened rete
Thickened cuticle containing granules
Slight cell infiltration into upper part of hair follicle
Cell effusion beneath thickened rete mucosum
Sweat-duct
Vessel from which effusion has occurred

FIG. 30.—A PAPULE OF LICHEN PLANUS FORMED AROUND A SWEAT-DUCT.—(*After Crocker.*)

Arsenic is a valuable remedy, exerting, in many cases, almost a specific influence upon the disease. In some cases, particularly when arsenic fails, mercury acts most favorably. For the relief of severe itching the intravenous or the intramuscular use of sodium cocodylate in 3 grain doses acts admirably. In severe acute cases a long holiday in the mountains or on the sea may accomplish more than drugs.

In other cases remedies directed toward the correction of intestinal disorders appear to accomplish most.

Locally, applications containing tar, carbolic acid, menthol, salicylic acid, mercury, etc., are to be employed. The application of the X-rays is often of distinct value. The following formula, suggested by Unna, may be heartily indorsed:

℞. Acidi carbolici..... gr. x-xx
Hydrarg. bichlor..... gr. ij-iv
Ung. zinci oxidi..... ℥ oz. M.
Sig.—Apply twice a day.

LICHEN SCROFULOSUS

Definition.—Lichen scrofulosus is a chronic inflammatory disease, characterized by millet-seed-sized, flat, reddish or yellowish, more or less grouped, scaly papules, occurring in scrofulous subjects.

Symptoms.—The disease occurs in young individuals exhibiting other evidences of the scrofulous diathesis. The papules, which are scattered over the chest and abdomen, have their origin in the hair-follicles. They are pinhead-sized, pale-red or yellowish, somewhat scaly, and tend to become aggregated in groups. Itching is absent.

The course of the disease is chronic, lasting for years. The disease is rare.

Treatment.—Cod-liver oil, used both internally and externally will usually effect a cure.

PRURIGO

Derivation.—*Prurire*, to itch.

Definition.—Prurigo is an inflammatory disease of the skin, characterized by the occurrence of pinhead- to lentil-seed-sized pale-red papules, occurring chiefly upon the extensor surfaces of the extremities, beginning in infancy or early childhood lasting for years or throughout a lifetime and accompanied by intense itching.

Symptomatology.—According to the severity of the disease, two types are distinguished—*prurigo ferox* (severe prurigo) and *prurigo mitis* (mild *prurigo*).

The disease usually begins in the first year of life, not infrequently taking the form of an ordinary urticaria. Later, there appear upon the extensor surfaces of the legs and arms, the trunk, and sometimes the forehead, pinhead-sized or larger, discrete, firm papules. These may be pale red or may have the natural color of the skin. The itching is intense, as a result of which the affected areas are covered with excoriations and blood crusts. After a time the skin becomes harsh, dry, greatly thickened, and sometimes pigmented. The neighboring lymphatic glands, particularly those in the inguinal regions, are often so greatly enlarged as to be apparent to the eye.

The disease is extremely rebellious, and may persist for years, or even throughout the entire lifetime of the individual. It is apt to undergo spontaneous improvement in the summer season. Prurigo is distinctly rare, particularly in this country.

Etiology and Pathology.—The disease is engendered by the environment of "misery,"—poor food, bad hygiene, etc. The pathology does not differ markedly from that of the chronic papular eczema.

Diagnosis.—The localization and character of the papules, the thickened skin, the marked adenopathy, the chronic course, and the history of the disease render the diagnosis easy.

Prognosis.—Severe cases often persist for a lifetime. Milder cases may, under judicious treatment, be cured. Some cases get spontaneously well around the age of puberty.

Treatment.—The therapeutic indications are to relieve the intense itching, to effect a disappearance of the eruption, and to improve the general health. Nutritious food and proper hygiene are essentials. Tonics, such as iron, cod-liver oil, and the hypophosphites, are often indicated. Crocker recommends, for the relief of the itching, the tincture of cannabis indica, beginning with five-minim doses—in a child of eight, for instance—and increasing to the physiologic limit.

Locally, ointments of betanaphthol, sulphur (ʒj to the ounce), and tar are of value.

Kaposi strongly advocates the following:

℞. Betanaphthal..... gr. x-xxx
Petrolati..... ʒj
Sig.—Rub in each night.

Baths are extremely useful, particularly the (1) alkaline bath (sodii bicarb., ʒiv to 30 gallons of water) and (2) the sulphur bath (sulph, præcip. or potass. sulphid, ʒiv to 30 gallons of water).

ACNE

Derivation.—Ἀχνή, a point.

Synonym.—Acne vulgaris.

Definition.—Acne is an inflammatory disease occurring in and around the sebaceous glands, characterized by papules, tubercles, or pustules, affecting chiefly the face, and running a more or less chronic course.

Acne is an extremely common disease, comprising over seven per cent. of all dermatoses.

Symptoms.—The forehead, cheek, and chin are the regions usually affected, although the chest, shoulders, and back

are not infrequently involved. The lesions are papular, pustular, or nodular, or a combination of these may be present. Comedones or blackheads and oily seborrhea often coexist, the former frequently giving rise to acne lesions. The primary manifestations are pinhead- to pea-sized, bright- or dark-red, discrete papules appearing at the orifices of the sebaceous glands and hair-follicles. These vary in number from two or three to several dozen. After a period of a few days or weeks the lesions either become pustular and discharge or undergo absorption, being followed by reddish stains or in some cases, by scars. A new crop succeeds the old, the affection thus continuing for months or years.

According to the predominating lesions various forms of acne are distinguished.

Acne Punctata

is represented by small conical elevations with central sebaceous openings filled with dark-colored points.

Acne Papulosa

consists of small reddish acuminate papules.

Acne Pustulosa

is characterized by pinhead- to pea-sized pustules resulting from suppuration of the papular lesions.

Acne Indurata

is a pustular acne in which the lesions are large and have markedly infiltrated bases. They are nodular, deep-seated, and often painful. When the inflammatory process involves

several adjacent glands, the suppurating lesions may coalesce, forming cherry- to hazel-nut sized sebaceous abscesses. This condition is shown in the accompanying cut.

FIG. 31.—SEVERE ACNE INDURATA.

ACNE ARTIFICIALIS

is a papular or pustular eruption produced by the internal administrations of the iodids and bromids or the external use of tar (*tar acne*).

Acne Cachecticorum

is an acne occuring usually upon the trunk and extremities of strumous and cachetic individuals. The lesions are large, indolent, violaceous, scar-leaving pustules.

The subjective symptoms in acne are extremely mild. Itching and burning are usually absent, but in some cases exist

Fig. 32.—Acne, Comedo, and Sebaceous Abscess.

in a mild degree. The large indurated lesions are often painful, or rather tender to the touch.

The course of acne is chronic, the disease, untreated, tending to last for months and years. In girls periodic aggravation occurs with great constancy either before, during, or after each menstruation. Spontaneous improvement takes place between the ages of twenty-five and thirty.

Etiology.—Puberty is the most potent predisposing cause, the vast majority of cases of acne occurring between the ages of fifteen and twenty-five; after thirty acne is uncommon. The great glandular activity occurring at puberty is easily subject to pathologic perversion. There is much evidence to suggest that the endocrine glands may play an important rôle in this disease.

Dyspepsia and constipation may play a part in the causation of acne particularly in more mature patients; uterine disease, menstrual irregularity, anemia, and general debility may also be provocative. The bromids, iodids, and tar may call forth an acne. A minute bacillus found in acne lesions is held by many to be the cause of the disease, but the writer must confess to skepticism on this point.

Pathology.—An acne lesion consists of a perifolliculitis and a folliculitis due to the irritation of retained and decomposed sebum. There is engorgement of the surrounding vessels and an intense cell-infiltration. The process ends in resorption or suppuration, with or without destruction of the follicle.

Diagnosis.—The diagnosis of acne is, as a rule, unattended with difficulty. It may in some cases be confounded with the papular or pustular syphiloderm. Below is appended the differential diagnosis.

Acne	Papulo-pustular Syphiloderm
1. Often associated comedones and oily seborrhea.	1. Concomitant signs of syphilis present.
2. Occurs at age of puberty.	2. Occurs usually later.
3. Usual limitation of lesions to face.	3. Distribution general.
4. Course chronic, with exacerbations.	4. Course acute.
5. Lesions acutely inflammatory.	5. Lesions are new growths. Color, dull or dark red.
6. No tendency to ulceration.	6. Tendency to ulceration.
7. Negative Wassermann reaction.	7. Positive Wassermann reaction.

Prognosis.—Some cases respond rapidly to treatment; others are refractory. Very few cases are incurable. Severe cases may be followed by scarring.

Treatment.—Constitutional and local remedies are both of importance—the former to prevent the formation of new lesions and the latter to cause the disappearance of the old.

Constitutional Treatment.—There are no specifics. Treatment must be directed toward the correction of systemic errors.

Dyspepsia and constipation frequently call for treatment. For the former, the bitter tonics, mineral acids, and alkalies may be used, according to the exigencies of the case. Constipation may be overcome by diet, abdominal massage, and a regime to encourage spontaneous bowel movements. The use of bran at breakfast, mineral oil, free water drinking, and enemata when necessary constitutes a better method of treatment than the habitual use of laxatives. In rebellious cases of constipation laxatives may have to be used as temporary expedients. In such cases compound licorice powder, cascara sagrada and the salines are to be preferred.

In cases attended with much pustulation, the sulphid of calcium in one to two doses four times daily is said to be serviceable, but in my experience has never been productive of results. Ferruginous preparations are of distinct value in cases complicated by chloro-anemia. Cod-liver oil and the hypo-phosphites are indicated in strumous and rachitic patients. Small doses of arsenic, strychnin, and bichlorid of mercury are of value in individuals with lowered nerve-tone.

Hygienic measures such as cold baths, outdoor exercise, and regular life are, of course, not to be neglected.

In many cases dietary restriction is necessary. Highly seasoned foods, pastries, salt meats, and alcoholic beverages are to be avoided, and starchy and sugary food limited. In patients who are frail and under weight a more generous diet is to be advised.

Local Treatment.—The object of local treatment is to hasten the disappearance of existing lesions and to stimulate the sebaceous glands to healthy action.

The nature of the remedies to be employed depends upon the amount of inflammatory reaction present. In the vast majority of cases stimulating applications are indicated. Occasionally, however, the face is hyperemic and tender and requires the use of sedative lotions and salves.

Before the local remedies are applied the face should be thoroughly washed with soap and hot water, with a view to opening up the follicles. For this purpose ordinary soap may be employed, or in sluggish cases soft soap or the tincture of green soap. This is advantageously followed by mopping the face for five minutes with very hot boric acid solution. Comedones are to be removed with a comedo expressor.

Salves and pastes are most conveniently applied at night. Lotions, used alone or in conjunction with ointments, may be sopped on frequently during the day.

Sulphur is by far the most generally useful and efficient remedy. It may be used in the form of a powder, ointment, paste or lotion. When the lesions are deep-seated and the face dry, ointments are to be preferred; when superficial and the face is oily, lotions are indicated.

The following dusting-powder is useful:

℞. Sulphur præcip. ..... ℥ij-℥iv
Amyli. ..... ℥ss
Ol. rosæ. ..... gtt. iij. M.
Sig.—Dusting powder.

Incorporated in an ointment, sulphur may be used as in the following formula:

℞. Sulphur præcip. ..... gr. xxx to ℥j
Lanolini,
Vaselini. ..... āā ℥iv M.
Sig.—Rub in at night.

An eligible and efficient lotions is known as the "compound zinc sulphid lotion." It may be used four or five times a

day, and has the advantage that it may be employed upon the face without disfigurement. Its formula is as follows:

℞. Zinci sulphat
Potass. sulphid.....
Pulv. calaminæ.....āā ℥i
Aq. rosæ.....q. s. ad.... f ℥iv

(The ingredients are to be dissolved separately, heated, and then mixed. A double decomposition takes place, with the precipitation of a whitish powder. The potassium sulphid should always be fresh.)

The following lotion has, however, given the better results:

℞. Zinci sulphat..... ℥iss
Solv. in aq. rosæ..... f ℥ii
Potass. sulphid..... ℥iss
Solv. in aq. et filt..... f ℥ii
Sulph. præcip..... ℥i
Spts. vini rectif..... f ℥ii
Pulv. calaminæ..... ℥i

Another useful formula is that devised by Kummerfeld:

℞. Sulph. præcip..... ℥i-℥iv
Pulv. camphoræ..... gr. x
Pulv. tragacanth..... gr. xx
Liq. calcis..... f ℥ij
Aq. rosæ..... f ℥ij

The *mercurials* are often serviceable in the treatment of acne. Care must be taken in changing from the sulphur to the mercurial treatment, or *vice versa*, that there be an intermission of a few days, and that the face be thoroughly cleansed, to avoid the disagreeable though temporary crop of blackheads resulting from the formation of the sulphid of mercury. The following is a much used formula:

℞. Hydrarg. chloridi corrosiv..... gr. ss-ij
Emuls. amygdal. amar..... f ℥iv
Tr. benzoin. comp..... f ℥j

Or the ammoniated mercury in ointment form may be used:

℞. Hydrarg. ammoniat..... gr. xxx-℥j
Ung. zinci oxidi..... ℥j

In addition to the above remedies, resorcin (gr. xx-xl to ʒj), betanaphthol (gr. x-xxx to ʒj), and ichthyol (ʒj-ʒjj to ʒj) may all be found useful.

In indurated acne benefit will often occur from the use of mercurial or ichthyol plaster worn during the night. In obstinate cases incision of the lesions with expression of their contents may be resorted to.

The X-rays are of great value in acne, but must be employed with exceeding care. (See special chapter on X-rays.) Ultra violet light can be definitely advised.

FIG. 33.—KAPOSI ACNE LANCE.

The use of a vaccine made up of the bacillus acne, the patient's own colon bacillus and the staphylococcus is at times of value; in other cases however, its use is disappointing.

ROSACEA

Definition.—Rosacea is a chronic hyperemic disorder of the face, particularly of the nose and cheeks, characterized by redness, dilatation of blood-vessels, the formation of papules and pustules, and in some cases by connective-tissue hypertrophy.

Symptoms.—The disease has three stages. In the first stage there is simply a diffuse hyperemia of the part, coming on after meals, after drinking hot beverages, on exposure to cold or heat, under the influence of nervous excitation, and at the menstrual period. After some months or years the second stage develops. In this the redness is more permanent, being due to enlarged capillaries and venules, which are visible coursing through the skin. At the same time papular and pustular lesions appear. This is the usual clinical picture of acne rosacea. The term *rosacea papulosa* is applied to those

cases in which papules are present and *rosacea pustulosa* to those in which pustules develop.

In exceptional cases the disease progresses to a third stage, which is characterized by further capillary enlargement, and

FIG. 34.—ROSACEA PAPULOSA.

hypertrophy of the sebaceous glands and connective tissue. A lobulated or bulbous enlargement of the nose takes place, sometimes reaching the size of a fist (*rhinophyma; acne hypertrophica*).

The course of the disease is chronic, lasting over a period of years.

Etiology.—The disease occurs in both sexes, but is usually worse in men. The most frequent causes are chronic gastro-intestinal disturbances, anemia, menstrual and uterine disorders, continued exposure to cold winds, and the excessive use of alcoholic beverages, tea, etc. The inordinate use of tea and coffee is as fertile a cause in women as is the abuse of

FIG. 35.—ACNE HYPERTROPHICA.—(*After Van Harlingen.*)

alcohol in men. In women about 20 per cent. of the cases are of psychic nervous origin.

Pathology.—There is at first a dilatation of vessels, followed by permanent enlargement, and ultimately connective tissue overgrowth. In hypertrophic cases the corium is greatly thickened and the sebaceous glands somewhat enlarged.

Diagnosis.—The tubercular syphiloderm and lupus vulgaris may in some cases simulate acne rosacea, but the presence of hyperemia with enlargement of vessels, and of acne papules and pustules occurring upon the nose and cheeks and running a chronic course, will render the diagnosis easy. Both syphilis and lupus tend to ulcerate.

Prognosis.—Cases of moderate severity may be much benefited or cured by judicious treatment. When connective-tissue hypertrophy has taken place the prognosis is more guarded. The disease exhibits no such tendency to spontaneous cure as is seen in simple acne.

Treatment.—Internal and external remedies are both of importance. The cause or causes of the disease must be assiduously investigated. When the stomach is at fault the diet should be carefully regulated. Condiments, alcohol, tea, and all sorts of stimulating articles are to be prohibited. I have observed overeating to be a definite cause in some cases. The quantitative regulation of the diet is often as important as qualitative considerations.

Due attention must be paid to the condition of the bowels. In the various forms of dyspepsia, nux vomica, the stomachic bitters, mineral acids, alkalies, etc., are to be prescribed.

A few cases will require the use of iron, strychnin, cod-liver oil, and like tonics.

Local Treatment.—The *sulphur* preparations used in the treatment of simple acne are valuable also in rosacea. Excellent results often follow the use of the "compound zinc sulphid lotion," Kummerfeld's solution, or Vleminckx's solution,* diluted one to ten parts.

When the capillaries are enlarged they may be destroyed by *scarification*, by *slitting* them up with a fine knife, or by

* ℞. Calcis..... ℥ss
Sulphur, sublimat..... ℥j
Aquæ..... f ℥x M.
To be boiled down to six ounces and filtered.

insertion of the *electrolytic needle*. In hypertrophic cases *ablation* of the diseased tissue may be performed with a knife or scissors. X-ray treatment is of distinct value in some cases.

ACNE VARIOLIFORMIS

Synonyms.—Acne frontalis; acne necrotica.

Definition.—A chronic inflammatory disease characterized by papules and pustules with necrotic depressed centers, occurring for the most part about the forehead and scalp, and leaving pit-like scars.

Symptoms.—The disease is usually located upon the margin of the hair, scalp, eyebrows, etc., although other regions may become involved. The lesions consist of firm, reddish-brown papules, which undergo suppuration and become covered with a firmly adherent yellowish or brownish crust, which conceals a small central ulceration. On the fall of the crust a brownish-red depressed scar is seen. There is sometimes a disposition of the lesions to group. The disease is essentially chronic, and there is a marked tendency to recurrence. The nature of the disease is obscure. It is placed, by many writers, among the eruptions related to tuberculosis.

Treatment.—Sometimes there is a history of an antecedent syphilis. A Wassermann test should be made in all suspicious cases. Measures directed toward improvement of the general health should be employed whenever indicated. The use of staphylococcic vaccines has been advised. Locally, the best results are obtained with sulphur and mercurial ointments. In rebellious cases the electro- or thermo-cautery may be used. The X-rays are of value.

DERMATITIS PAPILLARIS CAPILLITII

Synonym.—Acne-keloid.

Definition.—Dermatitis papillaris capillitii is a rare inflammatory disease, commencing upon the hairy border of the nape of the neck, characterized by papules, papillomatous vegetations and keloidal elevations.

Symptoms.—The disease begins as pinhead-sized papules upon the back of the neck, often extending into the occipital region. These may remain discrete or become confluent, forming either papillomatous outgrowths or keloidal elevations. Interspersed acne pustules are also present. Some areas exhibit permanent loss of hair, while on others tufts of hair spring up from the hypertrophied cicatricial tissue. The disease is chronic and progressive.

Treatment.—The affection is markedly refractory to treatment. Epilation, followed by the application of a dram to the ounce sulphur ointment, is sometimes efficacious.

In many cases it will be found necessary to resort to the use of electro-desiccation, the electro-cautery or the X-rays to destroy the growths present.

SYCOSIS

Derivation.—Σύχωσις, fig-like, from συχον a fig.

Synonyms.—Sycosis nonparasitica; sycosis vulgaris; folliculitis barbæ; coccogenic sycosis.

Definition.—Sycosis is a chronic inflammatory disease of the hair-follicles, usually of the bearded region, characterized by papules, pustules, and tubercules perforated by hairs.

Symptoms.—The disease commences by the formation of discrete pinhead- to pea-sized papules or pustules at the sites of hair-follicles. The pustules are flat or acuminated and contain a yellowish fluid; they show no disposition to rupture, but dry into crusts. The surrounding skin is reddened, sometimes swollen and infiltrated, and the seat of a variable amount of itching, burning, and soreness. The pustules are discrete, but may be closely aggregated. A hair perforates the center of each lesion. In the beginning, the hair is firmly attached, but as suppuration becomes free, it is more easily extracted. At times, tubercles are present. The eruption comes out in crops, the disease lasting for months or even years.

The affection is confined to hairy regions, particularly the beard and mustache.

Etiology.—The disease obviously occurs only in adult males. The lesions are due to invasion of the follicles by microorgan-

FIG. 36.—SYCOSIS.

isms, chiefly the staphylococci. Nasal discharge may determine a sycosis of the upper lip; this variety is extremely rebellious.

Pathology.—The pathologic process consists of a folliculitis and perifolliculitis, due to the invasion of pyogenic cocci. The inflammation is at first perifollicular, the follicle only becoming secondarily invaded by serum and pus.

Diagnosis.—Sycosis vulgaris may be confounded with tinea sycosis and pustular eczema. The following gives the differential diagnosis.

Sycosis	Tinea Sycosis
1. A typical case shows small discrete papules or pustules pierced by hairs.	1. A typical case shows large lumpy or nodular tumefactions.
2. Hairs firmly attached until free suppuration occurs. Roots often swollen with pus.	2. Hairs broken and easily extracted. Roots usually dry.
3. Course slow. Little change from week to week.	3. Course rapid. Marked changes from week to week.
4. Mustache frequently affected.	4. Mustache rarely affected.
5. Absence of fungus in hairs.	5. Tricophyton fungus in hairs.
Sycosis	Eczema Pustulosum
1. Lesions strictly follicular, pierced by hairs.	1. Lesions apt to be interfollicular as well.
2. Eruption limited to bearded region.	2. Tends to spread upon nonhairy region.
3. Absence of oozing.	3. Oozing marked.
4. Itching slight.	4. Itching more severe.

Prognosis.—Very few cases are incurable. The disease, however, is often refractory to treatment and lasts months or years. Recurrences are common.

Treatment.—Internal remedies, such as iron, arsenic, cod-liver oil, etc., are at times indicated by the general condition of the patient.

External treatment is, however, far more important. An essential step in the local treatment is the systematic *shaving* or *clipping* of the hairs. The beard should be closely clipped with scissors, or, better still, shaved every two of three days. When suppuration is free, daily *depilation* should be practised.

When the inflammatory signs are marked, soothing lotions, such as lotion nigra, or saturated solution of boric acid, or ointment of cold cream, oxid of zinc ointment, etc., may be employed. Most cases, however, require more stimulating applications.

Sulphur is here, as in most follicular inflammations, of great value. It is best employed in salve form, although lotions may also be used:

℞. Sulph. præcip..... gr. xx-xl
Petrolati..... ℥j

A mercurial ointment often acts efficiently:

℞. Hydrarg. ammoniat..... gr. xv-xxv
Petrolati..... ℥j

The following formula is highly spoken of:

℞. Ichthyol..... ℥j-℥ij
Petrolati..... ℥j

A lotion of bichlorid of mercury, one-fourth to one grain to the ounce, sopped on frequently, is often followed by good results. In obstinate cases, the X-rays should be employed to the point of depilation. Bacterial vaccines will occasionally give good results; in one case of rebellious sycosis under my care, two injections of an autogenous vaccine produced a brilliant and permanent cure. I am of the opinion that when the technic of producing vaccines has been perfected, our results in the treatment of this affection by vaccines will be greatly improved.

LUPOID SYCOSIS

Synonyms.—Ulerythema sycosiforme (Unna).

Definition.—An inflammatory disease of the skin, beginning as a sycosis, but leading to atrophy of the hair and sebaceous follicles and atrophic scarring. The disease is very rare.

Symptoms.—In the beginning the case can not be distinguished from an ordinary sycosis. In the course of some months or years the affected hair and sebaceous follicles undergo atrophy, producing permanent baldness of the part and a whitish atrophic scarring. The disease spreads by centrifugal extension, the advancing border being infiltrated, often serpiginous in outline and studded here and there with pustules. Flat vesicles and blebs, attended by intense itching and burning may develop over the affected area.

The disease involves with predilection the beard, and is inclined to be symmetric.

Pathology.—Obscure. Some believe that there is engrafted upon an ordinary sycosis a tuberculous infection. In a well-marked case I found nests of dense round-cell infiltration throughout the corium, but no giant cells or tubercle bacilli.

Diagnosis.—It is most apt to be confounded with lupus vulgaris and lupus erythematosus. The chief characters of the disease are an antecedent sycosis, atrophy of follicles, atrophic scarring, centrifugal extension, and vesicle and bleb formation, the disease being limited to the bearded region.

Prognosis.—The disease is refractory to treatment and runs a course of years.

Treatment.—No treatment has been of much avail.

PSORIASIS

Derivation.—ψώρα, the itch.

Synonym.—Lepra (used by early writers).

Definition.—Psoriasis is a chronic inflammatory disease of the skin, characterized by variously sized reddish, dry, rounded, sharply defined patches, covered with abundant imbricated silvery scales.

Symptomatology.—The disease may occur at any age, but usually, manifests itself first in adolescence or early adult life. It invariably begins as small reddish, pinpoint to pinhead-sized papules, surmounted with minute scales. These increase

more or less rapidly by peripheral extension, reaching the size of a dime or dollar and then remaining stationary. The patches are dry, round, sharply defined, more or less elevated

Fig. 37.—Typical Patches of Psoriasis upon the Forearms.

and infiltrated, and covered with profuse shining, grayish, whitish, or mother-of-pearl scales, which are superimposed upon one another in an imbricated manner. When removed a reddish base is exposed which exhibits, upon scratching with the nail, punctate hemorrhage (the blood exuding from the

abraded hyperemic capillary loops). Serous exudation is never present.

The eruption attacks with predilection the extensor surfaces of the elbows and knees, and the scalp. The trunk and other portions of the body are also frequently involved.

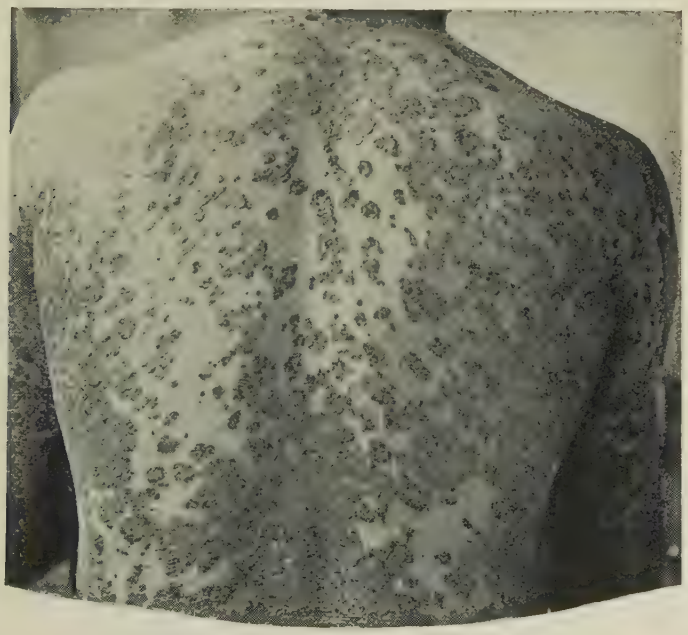


FIG. 38.—AN EXTENSIVE CASE OF PSORIASIS.

The disease is not attended with any constitutional disturbance. Itching is usually slight, although in some cases it is severe.

According to the size and configuration of the patches, various forms of psoriasis are distinguished.

In *psoriasis punctata* the papules are pinhead-sized.

In *psoriasis nummularis* the patches reach the dimensions of coins of various sizes.

In *psoriasis circinata* or *annulata*, the centers of the patches clear up, leaving ring-shaped plaques.

In *psoriasis gyrata* annular or semicircular patches coalesce, producing wavy and festooned outlines.

In *psoriasis diffusa* the patches are large and irregular, involving considerable areas of cutaneous surface.

Psoriasis pursues, as a rule, an eminently chronic course. The eruption commonly disappears, either as a result of

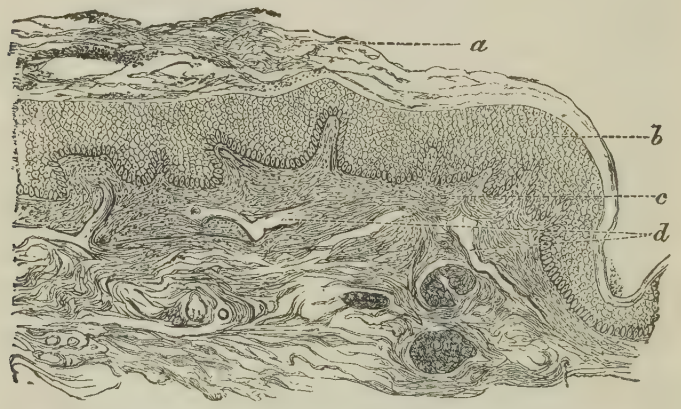


FIG. 39.—PSORIASIS. A PINHEAD-SIZED PAPULE.—(*After Crocker.*)
a. Scaly cap. *b*. Rete mucosum considerably thickened. *c*. Moderate cell effusion in the papillary layer. *d*. Dilated blood-vessels.

treatment or spontaneously, but in most instances there is a recurrence sooner or later. The eruption varies greatly in extent in different attacks. The psoriatic eruption frequently disappears during the warm months of the year. The disease is not contagious.

Etiology.—The disease occurs rather more frequently in robust individuals than in the debilitated. Gout is alleged to be related to psoriasis but the researches of the writer and his associates definitely disprove this. The most plausible hypotheses are that the disease is either of metabolic or

parasitic origin. Schamberg, Kolmer, Raiziss and Reiger found a nitrogen retention in psoriatic subjects. One should maintain an open mind as to the cause of the disease. Although the writer is inclined to view the cause as metabolic in character.

Pathology.—Microscopic examination of a section of psoriatic skin shows:

1. Marked hyperplasia of the mucous layer of the epidermis.
2. Thickening of the horny layer.
3. Increased size of the papillæ, due to hyperplasia of interpapillary projections of the rete.
4. Dilatation of the blood- and lymph-vessels and round-cell infiltration in the papillary layer of the corium.
5. Microscopic abscesses are early found in the epidermis.

Diagnosis.—Psoriasis is usually an easily recognized disease. The affections most likely to be confounded with it are eczema squamosum, the squamous syphiloderm, and pityriasis of the scalp.

Psoriasis	Squamous Eczema
1. Course chronic.	1. Course acute, subacute, or chronic.
2. Involves with predilection extensor surfaces.	2. Involves with predilection flexor surfaces.
3. Itching moderate or absent.	3. Itching present.
4. Patches sharply defined.	4. Patches fade into healthy skin.
5. Patches small and round.	5. Patches large and irregular.
6. Eruption always dry.	6. History of previous moisture.
7. Patches covered with profuse shining, silvery scales.	7. Patches covered with sparse, small yellowish scales.
8. Lesions remain unchanged from month to month.	8. More or less rapid changes in lesions.

Psoriasis	Squamous Syphiloderm
1. Negative history.	1. History of syphilis.
2. No concomitant signs.	2. Concomitant signs present.
3. Knees and elbows frequently involved.	3. Rarely involved.

4. Itching variable.
5. Uniformity of lesions, variations in size.
6. Scales abundant, lamellar, and silvery.
7. Beneath scales is an unelevated, reddish patch.
8. Negative Wassermann reaction.

4. Itching absent.
5. Multiformity of lesions, uniformity in size.
6. Scales scanty and yellowish.
7. Beneath scales is an infiltrated, elevated, dull-red papule.
8. Usually positive Wassermann reaction.

Psoriasis	Pityriasis Capitis
1. Occurs upon scalp and body.	1. Confined to scalp.
2. Eruption in form of patches.	2. Eruption diffuse; involves entire scalp.
3. Scales dry and silvery.	3. Scales greasy and dirty yellow.
4. Base inflammatory.	4. Base pale.
5. Apt to spread beyond hair border.	5. Limited to hairy scalp.

Prognosis.—Favorable as far as the disappearance of the existing eruption is concerned, extremely guarded as to ultimate cure. Relapses are the rule. I know of several patients who have remained free of eruption for 14 or 15 years.

Treatment.—The most essential point in the treatment of psoriasis is the recognition that the eruption runs in a cycle—a stage of activity or evolution, quiescence and often spontaneous decline. Nearly all remedies, local or internal, fail in the active stage. The effort must first be made to *inactivate* the process, i.e., to quiet the proliferative impulse of the epithelial cells. When this is accomplished, remedies previously ineffective often act as if by magic. Inactivation may be brought about by a rigid low protein diet—limiting the intake to 4 grams of nitrogen a day, but this is difficult to carry out except under ideal hospital conditions.

A simpler method is to induce foreign protein reactions by auto serum injections, injections of foreign proteins or vaccines.

During the quiescent stage arsenic is often of value. It may be administered in the form of Fowler's solution (♏iij to x) or

arsenious acid (gr. $\frac{1}{40}$ to $\frac{1}{10}$), and should be well diluted and taken immediately after meals.

Crocker speaks highly of the salicylates, or better still salicin in 15 grain doses. In some cases the internal use of mercury seems to do well.

Other remedies that have been used at different times with varying degrees of success are thyroid extract, carbolic acid, tar, turpentine, cantharides, copaiba, etc. In obstinate cases these may be tried, and will occasionally be found to do good where arsenic and other remedies have failed.

I believe that a low protein diet, avoiding all flesh foods, and in many cases reducing milk and eggs to a minimum is of importance in the treatment of extensive psoriasis.

Local Treatment.—An essential preliminary to the inauguration of topical treatment is the removal of the scales. It is useless to make liquid or unguentous applications to an impenetrable mass of scales; they must be removed so that the medicaments may be applied directly to the skin surface. Scales may be removed by washing with ordinary soap and water, by frictioning with soft soap, or, best of all, by prolonged baths (simple or alkaline) with the use of soap.

The chief local remedies employed in psoriasis are chrysarobin, tar, pyrogallic acid, ammoniated mercury, salicylic acid, etc.

Chrysarobin is a rapidly efficient remedy. It has, however, certain disadvantages which restrict its use to selected cases. It stains the skin temporarily and the underclothing permanently. Furthermore, it may set up a severe dermatitis or a conjunctivitis, particularly when used about the face. It may be safely employed in cases with a limited number of large chronic patches upon the body or extremities. It may be incorporated in an ointment or a paint:

℞. Chrysarobini..... gr. x-xl
Pulv. amyli,
Pulv. zinci oxidi.....āā ʒij
Petrolati..... ʒiv

Or—

℞. Chrysarobini..... gr. x-xxx
Liquor gutta perchæ (traumaticin) or Collodii-flex..... f ℥j

The application should be at first weak and used only over a limited surface. The ointment is to be applied once or twice daily, the paint every two or three days.

Schamberg, Raiziss and Kolmer introduced into medicine a preparation called "neorobin" which is a derivative of chrysarobin but much cleaner and more pleasant to use. It is five to eight times more active than chrysarobin and is employed in a strength of from 2 to 5 grains to an ounce of ointment base, preferably white vaselin.

Tar is a valuable application and is usually well borne. Its odor and color are its chief disadvantages. It may be used in the form of an ointment, paint, or bath. The preparations usually employed are the unguentum picis (official tar ointment), oleum cadini (the oil of cade), and oleum rusci (the oil of birch), in the strength of one to four drams to the ounce.

℞. Ung. picis, Ol. cadini, or Ol. rusci..... ℥ij
Adipis or Collodii flex.....q.s.ad..... ℥j
Sig.—To be used night and morning.

The tar bath is a convenient and efficient method of using this medicament in extensive cases. The patient anoints himself with tar ointment and then steps into a warm bath, in which he remains for about a half-hour. The chief objection to the use of tar is that it is dirty and odorous.

Pyrogallic acid ranks in efficiency after chrysarobin, and may be used in the same manner and strength. It stains the underwear, and if used over too great an area may produce fatal poisoning through absorption.

Ammoniated mercury and *salicylic acid* both have the advantage of being free from odor and excessive irritation, and

may therefore be employed with benefit upon exposed parts, such as the face and scalp.

℞. Hydrarg. ammoniat.
Acidi salicylici.....āā gr. x-xxx
Petrolat..... ℥j
Sig.—Use night and morning.

PITYRIASIS RUBRA PILARIS

Synonym.—Lichen ruber acuminatus.

Definition.—Pityriasis rubra pilaris is a chronic inflammatory disease characterized by a generalized eruption consisting of small, follicular papules with horny centers.

Symptoms.—The affection often begins in a manner simulating a seborrhœa sicca of the scalp or a scaliness of the palms and soles. Later, there develop hard, dry, conical, brownish-red papules varying in size from a pinhead to a millet-seed and situated about the hair and sebaceous follicles. These may remain discrete or run together in patches. In a well-marked case a nutmeg-grater sensation is imparted to the finger passed over the surface.

The favorite seats of the eruption are the extensor surfaces of the extremities, particularly the backs of the hands and fingers. The eruption is often general and not uncommonly universal.

Itching is slight or absent. The duration of the disease is variable—months or years, usually the latter.

The causation is unknown; some cases are supposed to be of tuberculous origin.

Treatment.—Internally, tonics are to be administered. Cod-liver oil should be given over a long period. The remedies employed locally are practically the same as those used in psoriasis—namely, pyrogallic acid, tar, mercury, etc. Baths are sometimes of value.

PITYRIASIS RUBRA

Derivation.—Πίτυρον, bran.

Definition.—A chronic inflammatory disease of the skin, involving usually the entire surface, characterized by deep redness and profuse and continuous flaky desquamation. The disease is exceedingly rare.

Symptoms.—The affection begins as small reddish, scaly patches, which by coalescence may involve the entire body

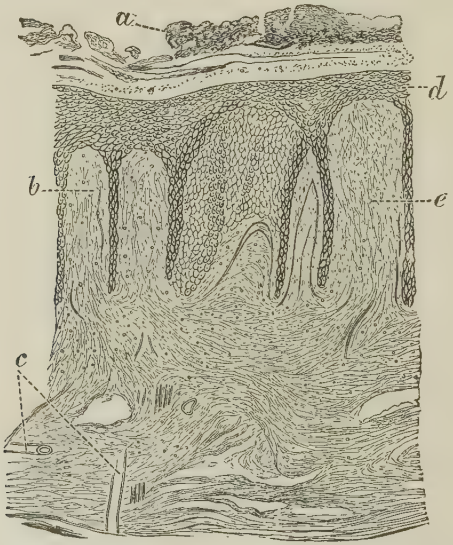


FIG. 40.—PITYRIASIS RUBRA.—(*Crocker.*)

a. Scales. *d*. Rete, thinner above but with enormously elongated interpapillary processes. *e*. Papilla enlarged vertically and transversely. *b*. Papillæ and upper part of corium infiltrated with leukocytes. *c*. Dilated blood-vessels.

surface. The skin is uniformly reddened and is covered with whitish and grayish papery scales. Desquamation persists throughout and is a characteristic symptom. The skin is always dry, vesiculation never taking place.

Itching, burning, thickening, and infiltration are slight or absent. The patient is sensitive to cold and often complains of chills. The disease lasts for months or years and tends to a fatal termination.

Etiology.—Obscure. It is more common in men than in women, and occurs in adult life.

Pathology.—There are all the signs of a chronic inflammation of the skin, followed by atrophy.

Diagnosis.—The disease may be confounded with squamous eczema, psoriasis, lichen ruber, and pemphigus foliaceous.

Prognosis.—Grave.

Treatment.—Unsatisfactory. Locally, inunctions with vaselin and bland oils. Internally, such tonics as cod-liver oil, iron, and quinin.

DERMATITIS EXFOLIATIVA

Synonym.—General exfoliative dermatitis.

Definition.—Dermatitis exfoliativa is an acute inflammatory disease, characterized by intense generalized redness followed by profuse desquamation, and accompanied by fever and other constitutional symptoms.

Symptoms.—The onset of the disease is sudden and attended by fever, and malaise. The eruption, which consists of an intense erythematous efflorescence, may be either diffuse or in patches. Rapid spreading over the entire body soon occurs, followed in a few days by profuse scaling of a flaky character. The skin of the palms and soles may be exfoliated *en masse* as well-marked epidermal casts. The hair and nails may also be shed. Itching and burning are present in varying degrees.

The disease in acute types runs its course in a few weeks or months, but is extremely prone to recur, at times observing well-marked periodicity.

A different type of the disease, pursuing an eminently chronic and refractory course, develops at times from a long-standing psoriasis or eczema. The disease is rare.

Etiology.—Acute exfoliative dermatitis is in all probability the result of an acute toxæmia or poisoning. The disease is at

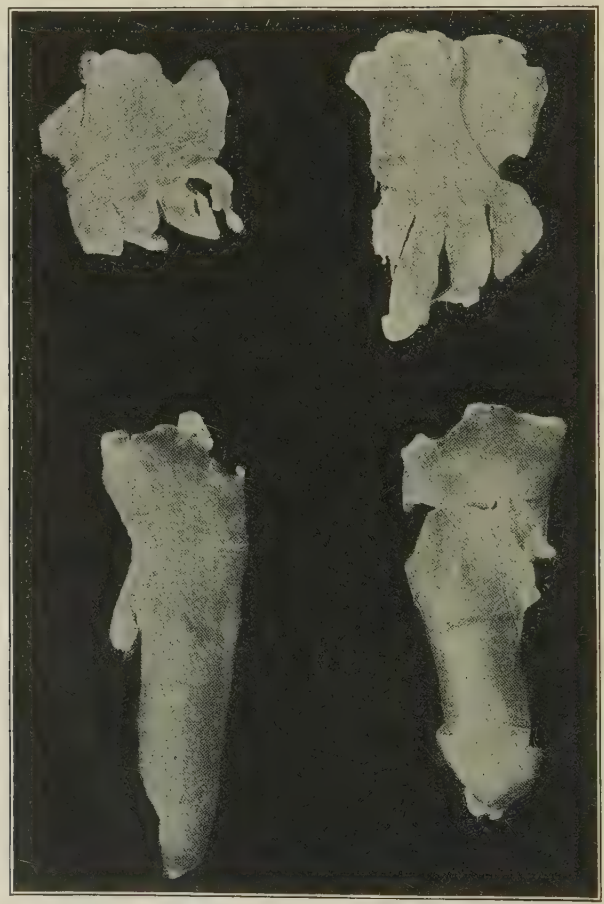


FIG. 41.—EPIDERMAL CASTS OF THE PALMS AND SOLES.—(*From a case of Dermatitis Exfoliativa.*)

times produced by the administration of certain drugs such as arsphenamine, quinin, antipyrin and the like. It may likewise

result at times from the external use of ointments containing chrysarobin, mercury or other strong medicaments. In other cases, the cause remains unknown.

Treatment.—The treatment is both internal and external. At the beginning of an attack the patient should receive a brisk saline purge. Quinin in full doses should then be administered. The patient is, of course, to be confined to bed.

Locally, emollient ointments such as are employed in eczema should be used. I believe that an extremely low protein diet is of value in the acute types.

In chronic cases cod-liver oil, and other tonics may, where indicated, be employed.

PITYRIASIS ROSEA

Synonyms.—Pityriasis maculata et circinata; herpes tonsurans maculosus.

Definition.—A self-limited inflammatory disease of the skin characterized by rose-colored erythemato-squamous patches occupying chiefly the trunk, and accompanied by mild constitutional disturbance.

Symptoms.—A primitive patch may precede the eruption by a few days to a week. The eruption comes out more or less rapidly, so that in the course of a week or ten days the trunk and thighs, which are the seats of predilection, may be profusely covered. The lesions consist of pinkish or rose-colored macules and maculopapules, which increase in size by peripheral extension, many reaching the dimensions of a silver half-dollar. The patches are often oval, their long axes corresponding to the lines of cleavage. Central involution occurs in many patches, giving them a circinate configuration. At this stage the typical lesion presents a yellowish or fawn-colored center, with a pinkish, slightly elevated border covered with furfuraceous scales.

Itching is moderate, but in some cases may be severe, particularly at night. Mild elevation of temperature with con-

comitant febrile symptoms are in rare cases present at the outset.

Etiology.—The cause is unknown. In some respects the disease suggests an acute exanthematous disease but in all

Fig. 42.—Pityriasis Rosea.

probability the affection is due to some fungus or bacterium in the skin.

Diagnosis.—The disease is to be distinguished from tinea circinata, squamous eczema, psoriasis, and the erythematous syphiloderm. The acute onset, the rapid progression of the iar shape and coloration, the definite course and spontaneous

eruption, the extreme superficiality of the lesions, their peculiar involution, will usually enable one to make the diagnosis.

Prognosis.—Always favorable. The affection is self-limited, running its course in from four to eight weeks.

Treatment.—For the relief of itching the following lotion may be used:

℞. Acidi carbolici ..... f ℥j
Zinci oxidi ..... ℥ij
Glycerini ..... f ℥ij
Aquæ ..... f ℥vj

Or

℞. Acidi Salicylici ..... gr. x
Acidi Benzoici ..... gr. xv
Acidi phenici ..... gr. x
Vaselini ..... ℥t

Or a *B*-naphthol or sulphur ointment twenty to forty grains to the ounce respectively, may be used. It is doubtful whether treatment materially shortens the duration of the disease.

ERYSIPELAS

Derivation.—Ἐρυθρός, red; πέλλα, the skin.

Synonyms.—St. Anthony's fire.

Definition.—Erysipelas is an acute specific inflammation of the skin and subcutaneous tissue, characterized by shining redness, swelling, heat, pain, and vesication, and accompanied by fever and constitutional disturbance.

Symptoms.—The disease is usually ushered in with a chill, malaise, headache, and elevation of temperature (102° to 105° F.). The erysipelatous eruption is highly characteristic. The affected area is sharply defined, of a shining crimson or violaceous hue, elevated above the surrounding skin, and firm, hot, and tender to the touch. In addition vesicles or blebs are prone to develop. The patient complains of pain, burning, or itching. The eruption tends to spread by peripheral exten-

sion, the older parts first undergoing involution. The eruption in any one locality runs its course in four or five days, ending in desquamation. The disease, however, may last for weeks owing to constant extension.

The face is by far the most frequently affected region. In this situation the eruption is extremely apt to spread over the forehead and scalp to the nape of the neck.

Erysipelas ambulans or *migrans* is a variety which tends to subside rapidly in one region, reappearing in another, the whole process continuing for several weeks.

There is a mild *recurrent* form of erysipelas which is prone to attack the cheeks and the alæ of the nose. The constitutional disturbance is mild or entirely absent. The eruption does not tend to spread beyond the face, and usually disappears in three or four days. It is due to micro-organismal infection through the mucous membranes of the adjacent cavities, particularly the nose.

Etiology.—The affection is due to the introduction into the skin or mucous membranes of the *streptococcus erysipelatis*. Depression of the vital forces and the existence of wounds or abrasions act as predisposing causes. In the recurrent variety due to nasal infection catarrhal conditions of that organ predispose.

Prognosis.—Favorable in the vast majority of cases. In rare cases, abscesses or gangrene may develop. In severe cases death may result.

Treatment.—Internally, tincture of the chlorid of iron, ♏X every two or three hours; quinin, gr. ij four times a day; and stimulants represent the older established treatment. Newer and more valuable remedies are now available. The specific erysipelas antitoxin is of great value. The X-ray also has a marvelously good influence. It should be given in one-fourth skin unit doses each day for three or four days. It should be given daily intravenously in the dose of 50 c.c. until improvement sets in, and if this be impossible as in infants, it should be

given subcutaneously. For local use I would counsel the following application used in the form of wet compresses or lint. It is just as efficacious as ichthyol and other unpleasant preparations and far more cleanly and agreeable to the patient. When the extremities are involved, extension may sometimes be checked by the use of tincture of iodin or the stick of nitrate of silver or collodion applied to the spreading periphery.

℞. Acidi borici ..... ʒi
Glycerini ..... f ʒiv
Resorcinolis ..... ʒi
Spts. Vini rectif ..... f ℥iss
Aquæ, qs ..... f ℥viii

In the recurrent form the nose and mouth should receive careful treatment, detergent washes such as Dobell's solution being employed.

ERYSIPELOID (*Rosenbach*)

Synonyms.—Erysipelas chronicum; erythema migrans.

Definition.—Erysipeloid is an inflammatory affection of the skin, resembling to some extent erysipelas, produced by the special micro-organism of decomposing animal matter.

Symptoms.—There are no constitutional phenomena. The disease affects the fingers and hands of scullions, butchers, fish dealers, etc. Its origin is a wound, from which a sharply defined violaceous or dark crimson zone extends. The spreading is much slower than in erysipelas. Itching and burning are often marked. The condition lasts from one to six weeks, and disappears without desquamation.

The affection is due to poisoning with decomposing animal matter; it is very commonly observed after crab bites. Klauder and Harkins have isolated the bacillus of swine erysipelas from this condition and have caused to be produced a serum which appears to be exerting favorable results.

Treatment.—Antiseptic ointments. Ichthyol, twenty-five per cent.; ammoniated mercury, ten per cent., etc. The injection of swine erysipelas serum.

DERMATITIS

Definition.—Dermatitis or inflammation of the skin is a cutaneous disorder characterized by heat, redness, pain, and swelling—in other words, by the ordinary phenomena of inflammation. The term is restricted to acute inflammations, the result of known irritants. For purposes of classification and study several varieties of dermatitis are distinguished:

(*a*) Dermatitis traumatica.
(*b*) Dermatitis calorica.
(*c*) Dermatitis venenata.
(*d*) Dermatitis medicamentosa.
(*e*) Dermatitis gangrænosa.

DERMATITIS TRAUMATICA

Under this head are included all forms of inflammation due to mechanical violence to the skin, such as contusions, lacerations, and excoriations (due to friction, scratching, etc.). The traumatism produced by scratching is of most importance to the dermatologist.

DERMATITIS CALORICA

This form of dermatitis is due to exposure to excessive heat (*dermatitis ambustionis*, burn) or to excessive cold (*dermatitis congelationis*, frostbite, chilblain). In both forms we have, according to the severity of the inflammation, erythema, vesication, or gangrene, accompanied by severe pain.

Treatment of Burns.—Paraffin-wax combinations painted over the burned areas. Ichthyol, ℥ii, petrolatum, ℥j. Carron oil (equal parts of linseed-oil and lime-water). Acidum carbolicum, gr. x, acidum boricum, gr. xxx, petrolatum, ℥j. Powder or solution of bicarbonate of soda. For superficial burns nothing quite equals the use of the following painted on the parts daily:

℞. Acidi picrici..... gr. x
Spts. Vini rectif..... f ℥ss
Aquæ..... f ℥ss

Treatment of Frostbite.—First rubbing with snow. Stimulating applications, such as turpentine, camphor, iodin, ichthyol, carbolized oil, or ointments, etc.

FIG. 43.—IVY POISONING.

DERMATITIS VENENATA

This form of inflammation is due to the contact with deleterious animal and vegetable substances. Among these may

be mentioned the acids or alkalies, croton oil, mustard, cantharides, anilin dyes, etc. The dermatologist is more particularly interested in the dermatitis produced by poisonous plants, chiefly the *Rhus toxicodendron*, poison ivy or oak, and the *Rhus venenata*, poison sumach or dogwood.

The poisonous principle in these plants is a volatile substance—toxicodendric acid.

Another plant which, in recent years, has been found to be a frequent cause of dermatitis is the *primula abconica* or primrose. This is a flowering hot-house plant often seen in homes in the spring and winter.

Symptoms.—From a few hours to several days after exposure to the poisonous plants referred to, the hands, face, and genitalia (in typical case) become the seat of innumerable vesicles and blebs, accompanied by redness, swelling and great burning or itching. The vesicles and blebs are, at times, angular or stellate, and not infrequently appear in linear streaks. The eruption may be carried to various parts of the body by auto-inoculation. The eruption lasts from one to four weeks. Some individuals are extremely susceptible to ivy poison, so much so that proximity without contact suffices to bring on an attack. Other individuals enjoy comparative immunity.

Treatment.—The use of the tincture of rhus toxicodendron has given me excellent results both during the attack and, above all, in the prevention of ivy poisoning. I employ the following formula:

℞. Tr. rhus toxicodendri ..... 15gtt.
Spts. Vini recti ..... f ℥i
Elix. aurantii, qs ..... f ℥iii

Begin with 1 drop in a half glass of water and increase one drop after each meal. As a prophylactic, increase to 20 drops after each meal, and then for convenience administer merely one dose of a teaspoonful in a half glass of water once a day.

Take throughout the ivy season. Desensitization continues for about a month after the last dose. During the attack one may inject, preferably intramuscularly into the buttocks, an ivy extract which is now upon the market. Begin with about ¼ c.c. and gradually increase. Mildly astringent and sedative lotions and ointments are of value. The following is a most useful lotion for the treatment of plant dermatitis:

℞. Sodii hyposulphit..... ℥ii
Resorcini and acidi borici..... āā gr.xl
Glycerini..... f ℥i
Zinci oxidi..... ℥ii
Aquæ.....q.s..... f ℥vi
M.S.—Sop on the affected areas every hour or two.

An ointment of phenol and sodium bicarbonate may be used at night.

℞. Acidi phenici..... gr. v.
Sodii bicarbonat..... gr. xxx
Ung. zinci oxidi..... ℥i
M.S.—Apply at night.

DERMATITIS MEDICAMENTOSA

(Drug eruptions)

This class includes eruptions due to the ingestion or absorption of certain medicaments. Drug eruptions are favored by (*a*) idiosyncrasy, *i. e.* hypersensitiveness (*b*) excessive cutaneous elimination, (*c*) imperfect renal and intestinal elimination (often due to renal or cardiac disease), (*d*) large doses, (*e*) long-continued administration. Individual susceptibility is the most important factor. The eruption may be macular, papular, vesicular, urticarial, bullous, or hemorrhagic.

The following is a list of the drugs most likely to produce eruptions: Antipyrin, arsenic, belladonna, bromids, chloral, copaiba, cubebs, digitalis, iodids, mercury, opium, quinin, salicylic acid, luminal, veronal, phenolphthalein, etc.

Antipyrin.—Out of fifty-two cases collected by Spitz, forty-one were morbilliform, four urticarial, and seven erythematopapular. Eruptions prone to itch and desquamate. Not uncommon.

Arsenic.—Urticarial eruption most frequent; may, however, be erythematous, papular, or vesicular. Extensive pigmentation may follow long-continued use of arsenic; herpes zoster thought to be produced by it at times. Eruption rare.

Belladonna.—Erythematous eruption resembling scarlatina. Not uncommon.

Bromids.—Pustular (acneiform) eruption most frequent. In children reddish-brown, fungating nodules are quite characteristic. Macular, papular, and bullous eruptions may occasionally occur. Eruption common.

Chloral.—Papular, erythematous, and urticarial eruptions most common; sometimes pustular or hemorrhagic. Eruptions occasional.

Copaiba.—Usually maculo-papular; sometimes scarlatinoid or morbilliform. Eruption not uncommon.

Cubeba.—Same as copaiba. Eruption uncommon.

Digitalis.—Scarlatiniform; maculo-papular. Eruption is rare.

Iodids.—The eruption is usually pustular (acneiform); bullous eruption next in frequency. May be erythematous, papular, pustular, bullous, hemorrhagic, or urticarial. Common.

Mercury.—Erythematous (scarlatinoid) and erysipelatous. Eruption unusual.

Opium.—Maculo-papular and urticarial; may resemble measles or scarlet fever. Eruption uncommon.

Quinin.—Of sixty cases analyzed by Morrow, thirty-eight were erythematous, twelve urticarial, five purpuric, and two vesicular and bullous. The erythema is usually scarlatinoid, but may be morbilliform. There is usually desquamation. Eruption rather rare.

Salicylic Acid.—Erythematous and urticarial. Occasionally purpuric, vesicular, or bullous. Eruption uncommon.

Veronal.—I have seen eruptions of a morbilliform and of a scarlatiniform character follow the use of this drug.

Luminal.—Intense morbilliform or scarlatiniform eruptions. At times a bullous eruption.

Phenolphthalein.—Circular patches of variegated tints followed by long-standing round pigmentary areas.

DERMATITIS GANGRÆNOSA

Synonym.—Sphaceloderma.

Dermatitis Gangrænosum Infantum

Synonyms.—Varicella gangrænosa; multiple disseminated gangrene of the skin in infants.

Definition.—A gangrenous affection following varicella and other pustular affections in children.

Symptoms.—Following in the wake of varicella or simple pustular dermatoses, there occur crusted pea- to coin-sized pustules with inflammatory areolæ, resembling vaccination lesions. In a short time the crusts are thrown off with a slough, leaving a distinct ulceration. There may be fever, vomiting, diarrhea, lung complications, and symptoms of pyemia. Indelible scars are left.

Prognosis.—Guarded. Depends upon age, number of lesions, and character of complications.

Treatment.—Supportive. Crocker advises quinin in one- or two-grain doses in milk every four hours. Complications should be treated as they arise. Locally, antiseptic applications.

Symmetric Gangrene

Synonyms.—Raynaud's disease; local asphyxia; spontaneous gangrene.

Definition.—A local arterial ischemia, generally followed by asphyxia, occurring at the periphery of the circulation, and producing symmetrically distributed gangrene of the skin and other tissues in the affected region (Crocker).

Symptoms.—The disease usually attacks the fingers and toes, although the nose and ears are also occasionally affected. With or without preceding pain and numbness, the parts become cold and whitish. After a variable persistence of this stage, local asphyxia develops, characterized by lividity, bluish discoloration and at times swelling and pain. The symptoms in this stage often exhibit marked change from time to time. In most cases the disease goes on to the terminal stage of gangrene, the sphacelated tissues being cast off leaving granulating wounds. Some cases continue for a long time with persistently livid fingers and toes, and may recover, although even in these cases relapses are the rule.

When the patient is debilitated or the affected areas large, death may result.

The disease is in most instances a vasomotor neurosis.

Etiology.—Exposure to cold is the most frequent cause. The affection has been observed to follow diphtheria, typhoid fever, scarlatina, measles, malaria, syphilis, and diabetes.

Prognosis.—In extensive cases in the very old or young the prognosis is serious. When the affected areas are small, the prognosis is good, but there is tendency to recurrence.

Treatment.—When seen early, galvanism with one electrode applied to the spine and the other immersed with the affected part in water is advised. The daily use of high frequency currents may be even more beneficial. Friction with stimulating liniments, as for frostbites, is also of value.

Diabetic Gangrene

In advanced cases of diabetes mellitus localized cutaneous gangrene may occur. The process is apt to begin as a bleb,

which dries, forms a crust, and is thrown off with the underlying sphacelated skin, leaving a granulating ulcer. The process is apt to attack the middle of the extremities (calves, etc.) rather than the fingers or toes.

FEIGNED ERUPTIONS

Feigned or artificial eruptions are sometimes seen in hysteric women, criminals, mendicants, and others. They are designed to excite sympathy and charity or are prompted by some morbid idea or other. The dermatitis may be erythematous, bullous, or gangrenous, and is produced by acids, caustics, friction, etc. The peculiarities of feigned eruptions are: (*a*) Their oddity or deviation from the ordinary types of skin disease; (*b*) their sharp definition; (*c*) their limitation to regions accessible to the hands.

FURUNCULUS

Derivation.—*Furunculus* (L.), a knave.

Synonyms.—Boil; furuncle.

Definition.—A furuncle is an acute circumscribed inflammation of a sebaceous gland or hair-follicle, ending in suppuration and the extrusion of a central necrotic mass.

Symptoms.—A furuncle begins as a painful, deep-seated induration which gradually approaches the surface, showing itself as a rounded or acuminate reddish prominence. In the course of a few days softening takes place, with the formation of a central slough or "core." The resulting depression heals up by granulation with the production of a slight scar. When no suppuration or necrosis takes place the lesion is termed a "blind boil."

Around one furuncle as a focus numerous satellites are apt to form. This may be due to external auto-inoculation or lymphatic transmission. *Furunculosis* is a condition in which there are intermittent outbreaks of boils extending over a

period of weeks or months. This condition is not infrequently seen in diabetes and Bright's disease.

Etiology.—Boils are due to the introduction of pyogenic microbes into the hair-follicles or sebaceous glands. Impoverished health renders the soil favorable, and lowers the resisting power to infection. Uncleanliness, itching dermatoses (promoting scratching), and certain occupations (tar and petroleum working) all favor the development of boils. At times focal pus infections, as about the roots of teeth and in the tonsils may be causative.

Pathology.—The process consists of a dense leukocytic infiltration around a sebaceous gland or hair-follicle, with thrombotic obstruction of the capillary blood-vessels and a central necrosis. The exciting organism is a pyogenic microbe, usually the staphylococcus pyogenes aureus.

A similar condition affecting the sweat-glands is considered under the head of Hidradenitis Suppurativa.

Diagnosis.—The ordinary characteristics of a boil are too well known to require discussion here.

Prognosis.—In single furuncles, good. Furunculosis may long remain refractory to treatment.

Treatment.—Single lesions should be incised as soon as the first evidences of suppuration occur.

Abortive applications—such as carbolic acid, nitrate of silver, tincture of iodin—fail, as a rule, to abort, although they may do good as counterirritants. A ten per cent. ichthyol plaster protects the boil and tends to prevent autoinoculation. An excellent method is to apply hot boric acid compresses covered with oiled silk. The use of this lotion upon the surrounding skin lessens the liability to further follicular infection.

The most generally efficacious remedy in the treatment of boils is a staphylococcic vaccine or bacterin. A vaccine made from organisms, cultivated from the patient's lesions is to be preferred, although stock vaccines will often suffice.

The urine should be carefully examined to determine whether or not diabetes or Bright's disease exists. The lesions should be treated surgically as early as possible. In obstinate cases tonics and sulphid of calcium (gr. $\frac{1}{4}$ q. i. d.) may be tried. Brewer's yeast in the treatment of furunculosis sometimes gives good results. A teaspoonful to a tablespoonful of the liquid yeast is to be taken in milk or water three times a day. Owing to the difficulty of obtaining this nowadays, baker's yeast may be substituted. Injections of milk protein intramuscularly often bring about excellent results.

CARBUNCULUS

Derivation.—Diminutive of *carbo*, a live coal.

Synonyms.—Anthrax benigna; carbuncle.

Definition.—Carbuncle is an acute phlegmonous inflammation of the skin and subcutaneous tissue, characterized by multiple foci of necrosis and sloughing of the superimposed integument.

Symptoms.—There is, as a rule, but one lesion present, having for its seat of predilection the neck or back. It begins as a flat, painful infiltration, varying in size from a chestnut to an orange. The skin is of a violaceous hue and board-like. At the end of a week or ten days the overlying integument sloughs in numerous points, exposing to view grayish-yellow necrotic masses, from which a sanious pus exudes. This cribriform appearance is characteristic of carbuncle. Later, the entire superjacent skin becomes gangrenous, and, being thrown off with the necrotic masses, leaves a gaping ulceration, which heals up by granulation, with the production of a permanent scar.

The process is usually accompanied by chill, fever, and prostration. In the old and debilitated a fatal septicemia may develop.

Etiology.—Occurs usually after the fortieth year. The same predisposing causes are operative as in furuncle—namely, diabetes, general debility, focal infections etc. The exciting cause is the introduction into the skin of a pyogenic microorganism.

FIG. 44.—CARBUNCLE.

Pathology.—The process begins in the sebaceous glands or hair-follicles. Suppuration occurs simultaneously in numerous adjacent foci. The skin and subcutaneous tissue are enormously swollen and have imbedded in them the yellowish-white necrotic plugs. The process extends laterally and vertically, and ends in a gangrene of the entire area.

Diagnosis.—In the beginning only may furuncle and carbuncle be confounded:

Carbuncle	Furuncle
1. Occurs usually in late adult life.	1. Occurs at any age.
2. Favorite situation, neck or back.	2. Indefinite localization.
3. Chestnut- to orange-sized.	3. Pea- or cherry-sized.
4. Surface flat.	4. Surface round or conical.
5. Skin board-like or brawny.	5. Ordinary inflammatory induration.
6. Multiple suppurating openings.	6. Single opening.
7. Terminates in gangrene.	7. Heals after extrusion of "core."
8. Constitutional disturbance may be present.	8. As a rule, absent.

Prognosis.—Favorable except in the aged and debilitated and in diabetics and alcoholics. Carbuncle upon the head or face is more serious than in other localities.

Treatment.—Various methods have been employed. Some authors favor parenchymatous injections of strong caustics rather than making crucial incisions. Crocker recommends the injection of glycerin and carbolic acid, one to two or four, as soon as suppuration begins. Wood and Taylor advise the injection of pure carbolic acid into various portions of the sloughing area. The stick of caustic potash may be bored into the openings of the carbuncle. After gangrene has occurred antiseptic applications, such as hot boric acid compresses, are useful. When septicemic symptoms threaten it is justifiable to excise the entire affected area. This is usually followed by prompt improvement in the symptoms. In recurrent carbuncles a staphylococcic vaccine preferably autogenous, should be tried. We have found the intramuscular injection of milk protein to be distinctly helpful. To prevent recurrences remove all focal infections, build up the general health and employ vaccines.

Nutritious food and stimulants are necessary to sustain the strength. Morphin and chloral are often demanded to relieve pain and produce sleep.

EQUINIA

Derivation.—*Equus*, a horse.

Synonyms.—Glanders; farcy.

Definition.—Equinia is a contagious specific disease derived from horses, characterized by constitutional disturbance and lesions of the respiratory and cutaneous systems.

Symptoms.—The site of inoculation is marked by an inflammatory papule or pustule, which soon degenerates into a ragged, undermined, spreading ulcer, with accompanying lymphangitis and glandular swelling. Later, numerous cutaneous and subcutaneous nodules develop, which break down and discharge (farcy buds). There is usually nasal ulceration, with a foul-smelling discharge. Most cases run an acute course, ending in death. Those that last several months may recover. The constitutional symptoms are fever, prostration, joint pains, and a typhoidal state.

Pathology.—The disease is due to the glanders bacillus (*Bacillus mallei*).

Prognosis.—In the acute form nearly all die; in the chronic form fifty per cent. recover.

Treatment.—Destruction of lesion by curet or caustics. In chronic cases, quinin in large doses and stimulants. Use of specific serum.

ANTHRAX

Synonyms.—Pustula maligna; charbon.

Definition.—Anthrax is a specific disease produced by the bacillus anthracis, characterized by gangrenous carbuncle-like cutaneous lesions.

Symptoms.—The lesion begins as a hemorrhagic bulla or pustule, beneath which a gangrenous eschar with a dusky red infiltrated areola forms. The surrounding skin is markedly edematous and the neighboring lymphatic glands enlarged. The lesions may be one or more, and are usually situated upon the face, hands, or neck. The constitutional symptoms

consist of chill, vomiting, fever (104° F. or more), and pains in the head and bones. Later there may occur typhoidal symptoms and death, in two or three days.

Etiology.—The disease is more often derived from the bodies of animals affected with splenic fever than from the living animals themselves; therefore butchers, tanners, wool-sorters, etc., are the usual victims.

Pathology.—The exciting cause is the bacillus anthracis, which, after the first day, may be found in the blood and all the secretions.

Diagnosis.—The distinctive features are a gangrenous patch with vesicular border surrounded by great edema and infiltration, and severe constitutional symptoms. The occupation of the patient is an important factor.

Prognosis.—The disease is fatal in about thirty-three per cent. of cases.

Treatment.—Early free excision. The use of anthrax serum is indicated in all cases and should be begun as promptly as possible. The delay of a few days may cost the patient his life.

POSTMORTEM PUSTULE

Synonym.—Dissection wound.

Definition.—Postmortem pustule is a condition resulting from infection from the cadaver, and is characterized by an inflammatory lesion at the point of inoculation, and occasionally lymphangitis, lymphadenitis, and slight constitutional disturbance.

Symptoms.—Inoculation takes place at the site of a cut or abrasion. An itchy red spot is followed by the development of a vesicopustule with a broad, painful, inflammatory areola. Suppuration goes on beneath the crust, which reforms as soon as removed. The lymphatic vessels and glands may be affected, and there is often slight fever and malaise.

Treatment.—Curetting or cauterization of the pustule, followed by antiseptic dressings.

Postmortem tubercle will be considered under the head of Tuberculosa Verrucosa Cutis.

AINHUM

Derivation.—From a native term meaning "to saw."

Definition.—Ainhum is a tropical endemic disease characterized by a slow, spontaneous amputation of the little toe.

Symptoms.—The affection occurs almost exclusively in Africans and Hindoos. It begins as a circular furrow in the digitoplantar fold of the little toe. This slowly increases in depth until the digit is constricted as by a ligature, when the distal portion swells up and is slowly thrown off by dry gangrene. This is accomplished usually in the course of from five to ten years.

Etiology and Pathology.—Obscure.

Treatment.—In the beginning cure may result from a severing of the constricting band. In advanced cases amputation is required.

TINEA TRICHOPHYTINA

Derivation.—*Tinea*, a moth-worm; *θρίξ*, hair; *φυτόν*, a vegetation.

Synonym.—Ringworm.

There are four chief varieties:

1. Tinea circinata—ringworm of the body.
2. Tinea tonsurans—ringworm of the scalp.
3. Tinea sycosis—ringworm of the beard.
4. Eczematoid ringworm—chiefly involving the hands and the feet.

Writers also speak of *tinea cruris* or ringworm of the genitocrural region (sometimes called eczema marginatum), and *tinea unguium*, *onychomycosis*, or ringworm of the nails.

TINEA CIRCINATA

Synonyms.—Ringworm of the body; herpes circinatus; tinea trichophytina corporis.

Definition.—Tinea circinata is a contagious vegetable parasitic disease due to the trichophyton fungus and characterized by annular vesiculo-squamous patches upon the body surface.

Symptoms.—The disease begins as one or several rounded or irregular pea-sized, hyperemic, scaly patches. In a few days these assume a circular shape with minute papules or vesicles around the circumference.

FIG. 45.—TINEA CIRCINATA. (Contracted from a dog.)

Peripheral spreading and central healing progress hand in hand, so that the patches when fully developed are distinctly annular or ring-shaped. They are usually coin-sized, of a dull pinkish or reddish color, with slightly elevated borders which exhibit a branny desquamation. The confluence of neighboring patches may occur with the production of gyrate lesions. But two or three patches are, as a rule, present.

Itching is usually slight. The face, neck, and backs of hands are the most frequent seats.

In *tinea cruris* (*eczema marginatum, tinea trichophytina cruris*) the clinical appearances are so much modified as to frequently simulate an eczema intertrigo. The patches are large, diffuse, of a dull or brownish-red color, with a well-defined marginated and at times slightly elevated border. Outlying circinated patches are usually present.

The eruption spreads with remarkable rapidity, successively involving the thighs, groins, genitals, mons veneris, and nates. Eczema is apt to complicate the affection. The itching is often severe, particularly at night.

Fig. 46.—Tinea Circinata.

Within recent years certain chronic eruptions involving the hands and feet and particularly the *webs of the fingers and toes*, and formerly regarded as eczema, have been demonstrated

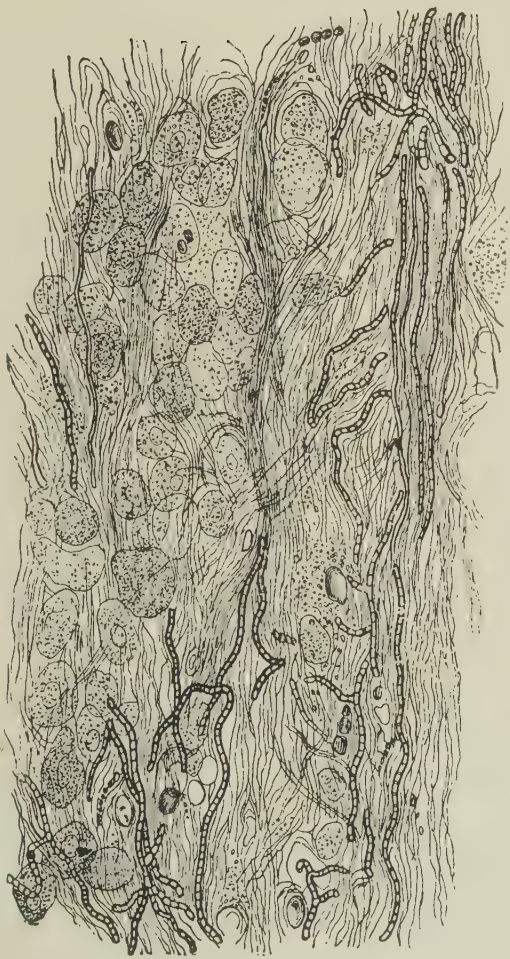


FIG. 47.—TINEA CIRCINATA. × 700.—(*After Kaposi.*)

to be due to the *ringworm fungus*, usually designated "epidermophyton."

This condition is so frequent that most of the eruptions on the feet are now known to be due to fungus infection. The fungus is called the "epidermophyton" and the condition is commonly termed "epidermophytosis."

Tinea Trichophytina Unguium (*Onychomycosis*, *Ringworm of the Nail*).—Occasionally the nails are invaded by the ringworm fungus. They become opaque, white, thickened, and soft or brittle. Two or three nails are usually affected. The disease runs a chronic course and is refractory to treatment. The best method is to avulse the nails under local or general anesthesia and then apply chrysarobin ointment to the nail beds.

Pathology.—The fungus is found in the epidermis, particularly in the corneous layer. Mycelium is abundant, spores scanty. The former consists of long, slender, sharply contoured, bifurcated, jointed threads. The spores are rounded, highly refractile bodies, varying from $\frac{1}{1000}$ to $\frac{1}{600}$ of an inch in diameter.

Diagnosis.—Tinea circinata may be distinguished from eczema, psoriasis, and seborrhea by the superficial character of the lesions, their annular configuration, the history, course and finally and conclusively by the microscopic examination.

Method of Examining for the Fungus.—Epidermic scales are scraped off with a knife and placed on a microscopic slide with a drop of caustic potash (20 to 40 per cent.). A coverglass is then applied, with sufficient pressure to flatten out the scales. The fungus is best studied with an oil-immersion lens, although it can be seen with the dry system.

Prognosis.—As a rule, the affection yields promptly to treatment. Tinea cruris is more rebellious than the ordinary form.

Treatment.—The treatment consists in the use of parasiticide ointments and lotions. Mercury, sulphur, betanaphthol,

resorcin, tar, and chrysarobin are all valuable. An efficient formula is:

℞. Hydrag. ammoniat..... gr. xx-xl
Vaselini..... ℥j

Hyposulphite of sodium (℥j to aqua f℥j) and bichlorid of mercury (gr. ss-j to aqua f℥j) are also useful applications. For tinea cruris the following application is recommended:

℞. Hydrargyri bichloridi..... gr. i
Acidi borici..... ℥i
Resorcinolis..... ℥i
Pulv. zinci oxidi..... ℥ii
Aquæ hamamelidis..... f ℥ii
Aquæ, qs..... f ℥vi

For *epidermophytosis* of the feet, painting with a 5 to 10 per cent. solution of nitrate of silver is sometimes curative. In other cases a modified Whitfield's ointment of the following composition may be used:

℞. Acidi salicylici..... gr. xx-xxx
Acidi benzoici..... gr. xx-xxx
Vaselini..... ℥i

When vesicles are present the feet should be immersed daily in a hot permanganate of potassium foot bath—1–2000 to 1–4000.

TINEA TONSURANS

Synonyms.—Ringworm of the scalp; herpes tonsurans; tinea trichophytina capitis.

Definition.—Tinea tonsurans is a contagious vegetable parasitic disease characterized by circumscribed areas of partial baldness, with evidence of disease of the hair.

Symptoms.—The disease begins as small, rounded, reddened scaly patches, occurring upon any portion of the hairy scalp. Soon the follicles become invaded, and circumscribed hair-fall results. Typical lesions consist of partially bald,

discrete, rounded, coin-sized, slightly reddened patches covered with grayish scales. The follicles are prominent, producing a "goose-flesh" appearance. The hairs are lusterless and consist of "broken or gnawed-off stumps." They lie loosely in the follicles and are easily extracted.

FIG. 48.—RINGWORM OF THE SCALP.

In rare cases ringworm may affect the scalp diffusely, without the production of circumscribed patches (*disseminated ringworm*).

The only subjective symptom is itching, which is usually of a mild character. The disease occurs almost exclusively in children. In adults it is so rare as to constitute a dermatologic curiosity.

The course of the affection is extremely chronic. When cure results, full restoration of hair takes place.

Tinea kerion is a highly inflammatory ringworm terminating in suppuration. The patches are reddish or yellowish, raised, edematous, and boggy; they are honeycombed with distended openings of hair-follicles, through which exudes a

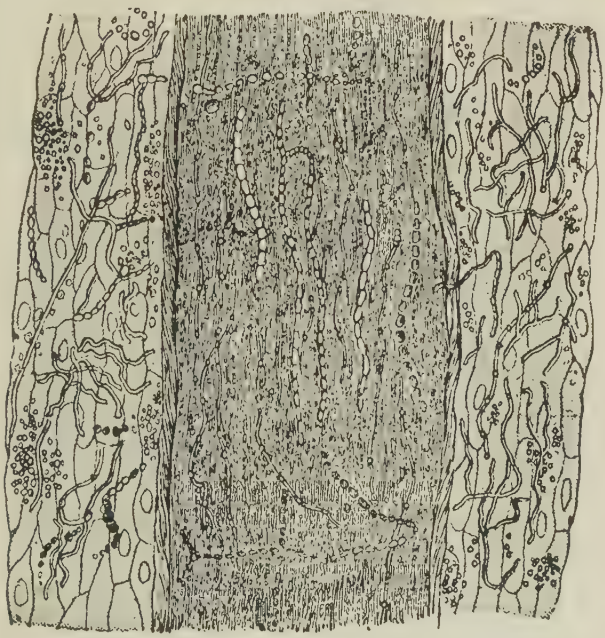


FIG. 49.—HAIR AND ROOT-SHEATH IN TINEA TONSURANS. ×700.—(*After Kaposi.*)

yellowish pus. Burning, itching, tenderness and pain are present in a variable degree. The suppuration of a ringworm hastens its cure, but may destroy the follicles and produce permanent baldness.

Etiology.—The disease is produced by a vegetable parasite, either the *trichophyton fungus* or the *microsporon Au-*

douini. Ringworm is essentially a disease of childhood. The affection is communicated from one child to another by direct contact or through the medium of caps, brushes, combs, towels, etc. It may also be contracted from the lower animals, such as the cat, dog, horse, or ox.

Tinea circinata in the adult may produce tinea tonsurans in the child and *vice versa*.

Pathology.—The fungus is found in the hair, the hair-follicle, and the epidermis. In this form of the disease the spores are extremely abundant in the hair, producing under the microscope a fish-roe appearance. The mycelium is usually scanty or absent. The hair is prepared by immersion in liquor potassæ and is examined without staining. Only broken off hairs are to be selected for examination.

Diagnosis.—The characteristic features of tinea tonsurans are circumscribed patches of partial baldness, grayish scales, goose-flesh appearance, broken-off stumps of hair, and the presence of the fungus.

These points will enable one to distinguish he disease from eczema, psoriasis, and seborrhea. The differential diagnosis from alopecia areata is here appended:

Tinea Tonsurans	Alopecia Areata
1. Slow and insidous onset.	1. Rapid onset.
2. Patches are—	2. Patches are—
(*a*) Covered with "broken-off stumps."	(*a*) Totally devoid of hair.
(*b*) More or less reddened.	(*b*) Pale and whitish.
(*c*) Rough and scaly.	(*c*) Smooth and soft.
(*d*) Follicles prominent; goose-flesh appearance.	(*d*) Follicles contracted.
3. Fungus present.	3. Absence of fungus.
4. Occurs amost exclusively in children.	4. Common in adolescence and adult life.

Prognosis.—As to ultimate cure, favorable. As to duration, guarded. Most cases persist from three months to one and a half years, unless treated by means of the X-rays.

Treatment.—The treatment consists of (1) daily soap and hot-water cleansings, (2) epilation of diseased hairs, and (3) application of parasiticide ointments and lotions. The scalp will bear remedies of greater strength than the nonhairy surfaces.

One of the best applications for ringworm of the scalp is

℞. Olei, cadini, Olei lini..... āā f℥i
M.S.—Rub in thoroughly at night and wash off in morning with soap and water.

Any of the following may be used:

℞. Betanaphthol..... ℥j
Petrolat..... ℥j

℞. Resorcini..... ℥j
Petrolat..... ℥j

℞. Hydrarg. ammoniat..... ℥j
Petrolat..... ℥j

℞. Acidi carbolici..... gr. xx
Petrolat..... ℥j

℞. Sulph. præcip..... ℥j to ℥ij
Petrolat..... ℥j

℞. Chrysarobin..... gr. x-xx
Petrolati..... ℥j
(To be used cautiously in rebellious cases.)

Or one may employ such lotions as—

℞. Hydrarg. chlor. corrosiv..... gr. ij-iv to aq. f℥j
℞. Sodii hyposulph..... ℥j to aq. f℥j

The applications are to be made twice daily. Epilation is to be practiced each day, the short, stumpy hairs being removed with a broad, flat-bladed forceps.

The best and most rapidly efficient method of treating tinea tonsurans is with the X-rays. A single dose applied to an affected area should result in epilation of the hair in the treated region. The loss of hair leads to an extrusion of the

fungus. After a time the hair, if the dosage has been proper, is restored. This treatment must be accurately dosaged by modern methods of precision, and should only be carried out by one skilled in the use of the X-rays. Otherwise a permanent and irremediable hair loss may result. Within the past few years Buschke has introduced thallium acetate in the treatment of ringworm of the scalp. The ingestion of 8 mg. per kilo of body weight in young children, is followed by a loss

FIG. 50.—TINEA SYCOSIS. NOTE "LUMPY" APPEARANCE OF LESIONS.

of the hair (similar to that induced by the use of the X-rays) in about 2 weeks. Regrowth occurs in about 2 months. Patients should be weighed without clothes and the dose should be most carefully adjusted. Thallium is a most powerful drug and is capable of causing unpleasant or serious symptoms if improperly used. The drug is furnished in tablet form and may be dissolved in sugar water.

The microscope should be repeatedly brought into requisition before any case is pronounced cured.

TINEA SYCOSIS

Derivation.—Σῦχον, a fig.

Synonyms.—Barber's itch; parasitic sycosis; tinea trichophytina barbæ; ringworm of the beard.

Fig. 51.—Tinea Sycosis.

Definition.—Tinea sycosis is a contagious vegetable parasitic affection due to the ringworm fungus, and attacking the hairs and hair-follicles of the bearded region.

Symptoms.—The disease begins as small, rounded, scaly, reddish patches (tinea circinata). The hairs and their fol-

licles soon become invaded with the production of swelling and induration and the appearance of nodular or lumpy tumefactions. Numerous pustules mark the sites of the hair-follicles. These soon rupture and give exit to a yellowish

FIG. 52.—TINEA SYCOSIS. ×700.—(*After Kaposi.*)

pus, which dries in the form of crusts. The hairs are dry and brittle, and either break off or fall out.

The chin, neck, and submaxillary region are the areas most frequently affected. The upper lip is more rarely attacked.

Itching and burning are present in varying degrees.

The disease, when untreated, persists indefinitely. Unless treatment is extremely thorough, relapses are liable to occur.

Etiology.—The disease is due to the invasion of the hair-follicles by the trichophyton fungus. The affection is usually acquired in the barber shop. The disease, however, is not infrequently contracted from horses and cattle. When acquired from such sources, it is apt to be more severe.

Pathology.—Both the hair and the hair-follicles contain the fungus, which consists of threads of mycelium and spores. Secondary inflammation of the follicles and surrounding tissues, with swelling, infiltration and suppuration, are present in well-marked cases.

Diagnosis.—The chief affection to be differentiated is ordinary sycosis.

Tinea Sycosis	Sycosis
1. A typical case shows large, lumpy, or nodular tumefactions.	1. A typical case shows small, discrete pustules pierced by hairs.
2. Hairs broken and easily extracted. Root usually dry.	2. Hairs firmly attached until free suppuration occurs. Roots often swollen with pus.
3. Course rapid. Marked changes from week to week.	3. Course slow. Little change from week to week.
4. Upper lip rarely involved.	4. Upper lip frequently involved.
5. Trichophyton fungus in hairs.	5. Absence of fungus in hairs.

Prognosis.—The disease is at times rebellious to treatment, although most cases get well in one or two months. Relapses are common.

Treatment.—The treatment consists of epilation and the use of parasiticide applications. Crusts should be softened with bland oils and then removed with soap and warm water. Epilation of the diseased hairs should be practiced assiduously until all are removed. The healthy areas of the beard should be shaved.

The following applications are all efficient:

℞. Sulphur præcip..... ʒj
Petrolat..... ʒj

℞. Hydrarg. sulphat. flav..... gr. xxx
Petrolat..... ʒj

℞. Sodii hyposulph..... ʒj
Aqua..... f ʒj

℞. Hydrarg. ammoniat..... gr. xl
Ung. zinci oxidi..... ʒj

℞. Hydrarg. chlor. corrosiv..... gr. j
Aqua..... f ʒj

These should be applied two or three times a day.

In rebellious cases the judicious use of the X-rays is an excellent method of treatment. Foreign protein treatments may also be often employed.

TINEA VESICOLOR

Synonyms.—Pityriasis versicolor: chromophytosis.

Definition.—Tinea versicolor is a vegetable parasitic disease, due to the microsporon furfur, characterized by furfuraceous, yellowish, macular patches, occurring chiefly upon the trunk.

Symptoms.—The disease begins as pinhead- to pea-sized yellowish macules scattered over the affected region. These, in the course of a few weeks or months, increase in size and coalesce, with the production of large patches. The patches are irregular in shape with sharply defined edges. The color is usually fawn-hued, although it may vary from a pale yellow to a brown. Occasionally it has a distinct pinkish tint. The affected area is covered with a fine, furfuraceous, mealy scaling. When this is not apparent it may be made evident by scratching the surface with the finger nail.

The eruption is usually confined to the trunk, particularly the chest and interscapular region. The neck, axilla, arm,

and in rare cases the face, may also become involved. Itching of a mild character is usually present.

FIG. 53.—TINEA VERSICOLOR.

Tinea versicolor pursues a chronic course, lasting, untreated, for months and years. The disease, with rare exceptions, is confined to adults. It is but slightly contagious.

Etiology.—The disease is due to the presence and growth in the skin of the *microsporon furfur*.

Pathology.—The corneous layer is permeated with a luxuriant growth of mycelium and spores. The mycelium consists of short, jointed, and angular threads, which may be clear or contain spores. The spores are rounded, highly refractive bodies, varying in size from a nine-hundredth to a three-hundredth of an inch in diameter. In tinea versicolor

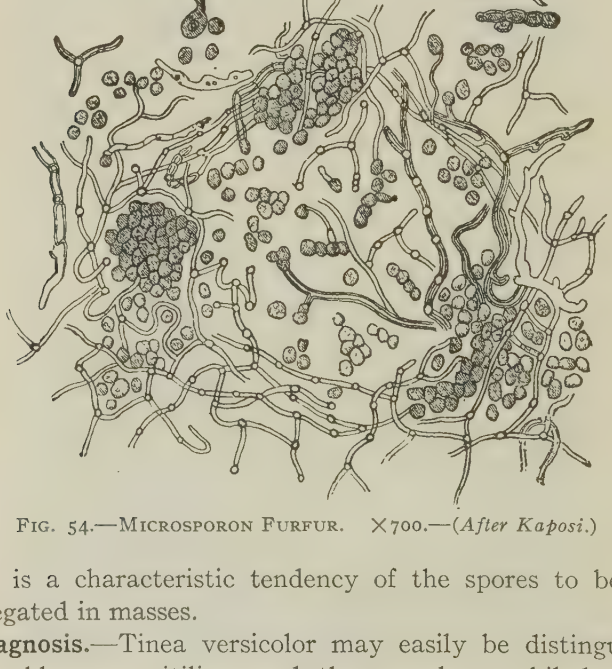


FIG. 54.—MICROSPORON FURFUR. ×700.—(*After Kaposi.*)

there is a characteristic tendency of the spores to become aggregated in masses.

Diagnosis.—Tinea versicolor may easily be distinguished from chloasma, vitiligo, and the macular syphiloderm by attention to the character and distribution of the eruption. In doubtful cases the microscope will decide the question.

Prognosis.—The disease responds promptly to treatment. Relapses are not infrequent.

Treatment.—The treatment is rapidly efficient, a few weeks sufficing in most cases to establish a cure.

The treatment consists of friction with soap and hot water (or, better still, sapo mollis), followed by the application of a parasiticide.

Lotions or ointments may be employed. Sulphur, mercury, tar, resorcin, etc., are among the most efficacious remedies.

℞. Sulph. præcip..... ℥j
Acidi salicylici..... gr. xx
Adipis benzoat..... ℥j
Sig.—Rub in twice a day.

Solutions of hyposulphite of sodium (℥j to f℥j) and bichlorid of mercury (gr. j-iv to f℥j) are easy of application and eminently useful.

It is well to continue the treatment for some time after apparent cure in order to preclude the possibility of relapse.

TINEA FAVOSA

Derivation.—*Favus*, a honey-comb.

Synonym.—Favus.

Definition.—Tinea favosa is a contagious vegetable parasitic disease, due to the Achorion Schönleinii, characterized by cup-shaped, sulphur-yellow crusts perfored by hairs.

Symptoms.—The usual seat of the disease is the scalp. The disease begins as a diffuse or circumscribed superficial inflammation with scaling, soon followed by the appearance of pinhead-sized, yellowish crusts seated about the hair-follicles. The crusts increase to the size of peas, when they acquire the characteristics of the "favus-cup" or scutulum. The typical favus cup is split-pea-sized, rounded, umbilicated, penetrated by a hair, and of a sulphur-yellow color. It is usually friable, crumbling between the fingers like dry mortar. When dislodged from its bed there is exposed to view a reddened, shining, atrophic, cup-shaped, often suppurating excavation which heals up with the production of a scar. As a consequence, more or less permanent baldness results.

FIG. 55.—TINEA FAVUS OF THE BODY SURFACE. (Rare.)

The crusts may be discrete or confluent, forming thick, irregularly shaped masses of a honey-comb appearance. In well-marked cases, a peculiar mouse-like or damp-straw odor is present, which is quite characteristic of the disease.

The hairs are dry, lusterless, and brittle, and are apt to split longitudinally, break off, or fall out.

Itching, variable in degree, occurs in most cases.

Favus occasionally attacks the non-hairy portion of the body (*tinea favosa epidermidis*). It may also affect the nails (*tinea favosa unguium, onychomycosis favosa*) causing them to become thickened, yellowish, opaque, and brittle.

The course of the disease is extremely chronic, lasting years, and in some cases a lifetime. The affection is contagious, but not to the same extent as ringworm.

Etiology.—The cause of the disease is a vegetable organism known as the *Achorion Schönleinii*. The disease usually begins in childhood. It exists chiefly among the foreign poor. It is not infrequently contracted from cats and other lower animals.

Pathology.—The fungus occurs in the hair, hair-follicles, and epidermis. The favus crust is made up almost entirely of fungus. The favus mycelium consists of slender threads, which appear as flattened tubes, either clear or containing spores. The threads are broader and the joints more numerous than in ringworm. The spores are rounded, highly refractive bodies, varying in size from $\frac{1}{900}$ to $\frac{1}{400}$ of an inch in diameter. They differ from the spores of ringworm in their greater variability both as to size and shape. Both spores and mycelium are abundant. Secondary inflammatory changes occur in the corium.

Diagnosis.—Tinea favosa is to be differentiated from tinea tonsurans and pustular eczema. The sulphur-yellow, cup-shaped, friable crusts, the scarring, the peculiar odor, and the history will usually enable one to make the diagnosis. Absolute proof is afforded by the microscope.

FIG. 56.—HAIR SHAFT AND HAIR BULB IN FAVUS. ×700.—(*After Kaposi.*)
a. Hair bulb. *b*. Root-sheaths, both abundantly infiltrated with fungus.

To examine for fungus, a fragment of crust or a hair is moistened in liquor potassæ and examined under a microscope, without preliminary staining.

Prognosis.—Favus of the scalp is extremely rebellious, lasting often for years. In long-standing cases extensive scarring and permanent hair loss are apt to occur. Favus of the body responds readily to treatment.

Treatment.—The treatment of favus of the scalp consists of epilation of the diseased hairs and the use of parasiticide ointments and lotions. The hair should be closely cropped, and the crusts removed by softening with oils and subsequent soap and water cleansing. The systematic extraction of the diseased hairs with an appropriate forceps is an essential part of the treatment. The parasiticide applications should be made twice daily.

Among the more important remedies may be mentioned the following:

℞. Olei cadini.
Olei lini..... *āā* f ℥i

℞. Hydrarg. chlor. corrosiv..... gr. iij-iv
Aqua..... f ℥j

℞. Sulph. præcip..... ℥j-ij
Petrolat..... ℥j

℞. Ung. Hydrarg. oleat..... 10–20 per cent.

℞. Sodii hyposulph..... ℥j
Aquæ..... f ℥j

℞. Chrysarobin..... gr. xxv
Petrolat..... ℥j
(To be used with caution.)

The treatment is long and tedious, and is apt to tax the perseverance of the patient. The microscope should be repeatedly used before a case is pronounced cured. Treatment should be continued after apparent cure to guard against relapse. The X-rays, skillfully employed with the purpose of

producing depilation after one exposure is the most rapidly efficacious treatment. Great care must be exercised not to produce permanent baldness.

Favus of the body is seldom rebellious, and may be treated with milder remedies than scalp cases. The crusts should be softened and removed and a mercurial or sulphur ointment rubbed in.

FIG. 57.—FUNGOUS ELEMENTS FROM A FAVUS SCUTULUM. ×700.—(*After Kaposi.*)

Favus of the nails is, as a rule, obstinate to treatment. The nail should be frequently pared and scraped, and parasiticide ointments rubbed in twice daily.

ERYTHRASMA

Definition.—Erythrasma is a rare vegetable parasitic disease, due to the microsporon minutissimum, characterized by reddish or brownish patches occurring in the axillary, inguinal, and genito-crural regions.

Symptoms.—The disease occurs as small, rounded, or irregular, well-defined, slightly furfuraceous patches of a reddish or brownish color. The axillary, inguinal, genito-crural, and

natal folds are the usual regions involved. The disease is slowly progressive and may last for years. It is accompanied by slight itching.

Etiology and Pathology.—The disease is due to the *microsporon minutissimum*, which consists of interlacing, jointed, bifurcating mycelial threads, and according to some, minute spores. The mycelium and spores are about one-third the size of the ringworm fungus.

Diagnosis.—The disease may be distinguished from tinea versicolor by the absence of the eruption on the trunk, the redder color of the lesions, and the differences in the microscopic appearances.

Treatment.—The disease is amenable to the same treatment that is prescribed for tinea versicolor.

FIG. 58.—A MASS OF ACTINOMYCES SHOWING THE RAY ARRANGEMENT.—(*After Ponfick.*)

ACTINOMYCOSIS

Derivation.—'Ακτίς, ray: μύηκς, mushroom.

Synonym.—Lump-jaw.

Definition.—Actinomycosis is a parasitic disease occurring in the lower animals and man, due to the ray fungus and characterized by deep subcutaneous tumors or swellings which break down and suppurate.

Symptoms.—The face and neck are the parts usually involved, the parasite gaining entrance to the tissues around

carious teeth. The onset of the disease is insidious, weeks or months elapsing before the appearance of cutaneous manifestations.

The lesions consist of deep-seated tumors or swellings which, approaching the surface, become red or livid in color, and, breaking down, discharge a bloody sero-pus containing characteristic yellow granules. These granules are made up almost exclusively of fungus. Sinuses with uneven nodular edges persist for an indefinite period.

Etiology and Pathology.—The disease is due to the invasion of the organism by the *actinomyces*, or "ray fungus." The fungus consists of club-shaped threads radiating from a common center.

Treatment.—The administration of large doses of potassium iodid has proven successful in many cases and should be given thorough trial. Locally, irrigation with corrosive sublimate solutions is advised. In obstinate cases the parts should be thoroughly curetted. The use of the X-rays is most valuable.

MYCETOMA

Derivation.—Μύχης, a fungus.

Synonyms.—Podelcoma; fungus foot of India; Madura foot.

Definition.—Mycetoma is an endemic disease, due to the presence of a vegetable fungus, characterized by disintegration of the tissues chiefly of the foot and hand.

Symptoms.—The disease occurs most frequently in India. In a typical case the foot is swollen and infiltrated and beset with pea- to nut-sized tubercles or nodules. These break down with the formation of sinuses which connect with the deeper structures and which give exit to a thin, sero-purulent fluid containing whitish or blackish granules.

The course is chronic, the disease lasting for years.

Treatment.—Complete removal by means of the knife or curet is the only successful treatment.

SCABIES

Derivation.—*Scabere*, to itch.

Synonym.—Itch.

Definition.—Scabies is a contagious animal parasitic disease, due to the sarcoptes scabiei, characterized by burrows and a multiform eruption, and attended by severe itching.

Symptoms.—The itch mite in burrowing into the skin produces at the point of entrance a small papule, vesicle or pustule. Later, a burrow or cuniculus is formed at this site. The burrow is a straight, tortuous or zigzag, grayish or blackish, linear, epidermal elevation varying in length from $\frac{1}{8}$ to $\frac{1}{2}$ of an inch.

In a well-marked case of itch there may be seen, in addition to the burrows, a multiform eruption consisting of papules, vesicles, pustules, crusts, excoriations (scratch marks), and thickening, occupying certain definite regions where the skin is thin. These are the interdigital spaces, the flexor surface of the wrist and arm, the anterior and posterior axillary folds, the mammæ and nipples (in women), the umbilicus, the buttocks, the penis, and inner side of the thighs and legs and the toes (particularly in infants). The face is exempted except occasionally in infants.

The eruption is attended by intense itching, which is distinctly worse at night. The irresistible scratching leads to the production of the secondary inflammatory symptoms. In children and individuals with sensitive skin the eruption may reach a high grade of inflammation. In predisposed subjects an eczema may be superadded to the scabies.

The disease develops rapidly in the course of one to two weeks. It is progressive, exhibiting no tendency to spontaneous cure. In untreated cases it may last many months.

Etiology.—The disease is due to the invasion of the skin by the *sarcoptes* or *acarus scabiei*. It is highly contagious. The disease may be transmitted by direct bodily contact or through the intermediation of such articles as the bedclothes.

FIG. 59.—SECTION OF EPIDERMIS SHOWING BURROW WITH CONTAINED PARASITE AND OVA.

It occurs at any age and is particularly common among the lower classes.

Pathology.—The burrow consists of a narrow tract through the epidermis made by the penetration of the impregnated

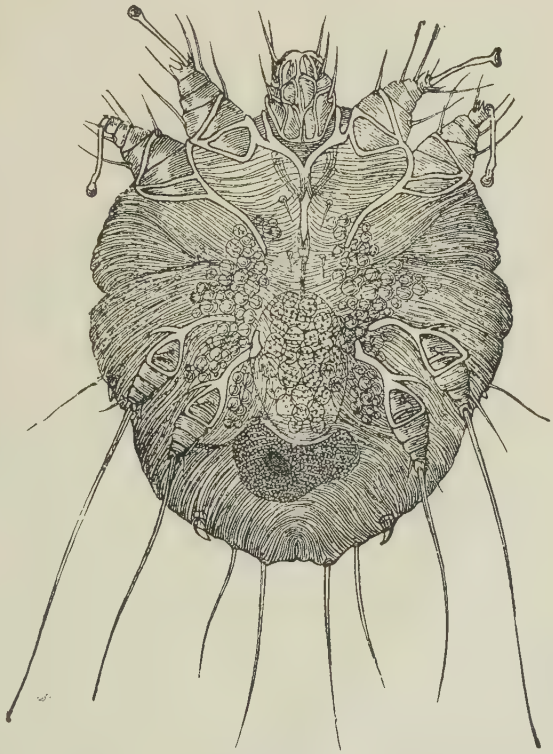


FIG. 60.—MATURE PREGNANT FEMALE ACARUS. ×300.—(*After Kaposi.*)

female acarus. The mite deposits a half dozen or more eggs and specks of excrement along the course of the tract, and, after reaching the mucous layer, perishes. The ova hatch out in eight or ten days and, effecting their egress from the burrow, start cuniculi of their own.

The itch-mite is a yellowish-white ovoid body just about visible to the eye. The female is twice the size of the male.

Diagnosis.—Scabies consists of the burrows plus an artificial inflammation of the skin produced by the parasite and the scratching.

The characteristic features of the disease are the presence of the burrows, a multiform eruption distributed in a peculiar manner over the surface of the body, the intense itching, worse at night, and the history.

Scabies may be distinguished from vesicular or pustular eczema by the presence of the mite and the burrows, the peculiar distribution of the lesions, the progression of the eruption from day to day, and the history of contagion.

From pediculosis corporis the disease may be differentiated by the character of the eruption and the regions affected.

Prognosis.—Favorable. The disease, no matter of what duration, is speedily curable.

Treatment.—The objects of treatment are twofold—to kill the parasite and to subdue the accompanying dermatitis. The itch-mite is easily destroyed by such remedies as sulphur, betanaphthol, balsam of Peru, styrax, tar, staphisagria, etc.

Sulphur is one of the most reliable remedies and is best applied in ointment form. It may be used in conjunction with balsam of Peru, as in the following formula:

℞. Sulph. præcip..... ℥j
Balsam peruv..... ℥ss-j
Adipis..... ℥iss

Betanaphthol possesses the advantage of being free from odor and more cleanly. It may be used along (℥j to ℥j) or combined with sulphur.

Styrax is less irritating than sulphur and is useful in the itch of children:

℞. Styracis liq..... ℥ss
Adipis..... ℥ss-

The treatment is to be inaugurated by a protracted hot bath with the vigorous use of soap. The body from neck to foot is then to be thoroughly anointed with the ointment. This may be rubbed in twice a day for three days or nightly for one week. At the end of this time another bath should be taken and the underclothing and bed linen changed and sterilized. Ordinarily, such a treatment will suffice to produce a cure; occasionally, it must be repeated.

Care should be exercised not to *overtreat* cases. The persistence of itching is not always an index of the continuance of the scabies, but is more likely to result from the dermatitis which is, perhaps, being aggravated by the parasiticide application. In such a case a sedative ointment or lotion should be substituted.

GRAIN ITCH

Synonyms.—Straw itch; straw mattress disease; acarodermatitis urticariodies (Schamberg).

Definition.—Grain itch is an eruptive disorder characterized by a widespread urticarioid eruption, accompanied by intense itching, and due to the noxious activity of a minute animal parasite, the pediculoides ventricosus.

Symptoms.—The disease occurs in this country usually between the months of May and October. Mild systemic symptoms may precede the outbreak of the eruption. The lesions are in large part, wheals many of which exhibit at their summits a central pin-point or larger sized vesicle. Instead of frank wheals, the efflorescence may consist of barely elevated erythemato-urticarial macules, or papules of an œdematous appearance. These often become excoriated through scratching. The color of the lesions is of a warm rose tint. The eruption varies in extent but is usually profuse, involving chiefly the trunk and to a lesser extent the extremities. The face occasionally exhibits a few lesions but the hands and feet

are nearly always free. The itching is severe. The eruption, if untreated, may persist for weeks.

A mild albuminuria is present in some cases and there is rather uniformly a slight leucocytosis with a moderate eosinophilia.

Etiology.—The disease is due to contact with wheat, barley and other cereals or the straw therefrom, infested with a minute mite, the pediculoides ventricosus. Farmers may be attacked from contract with grain in the field, storehouse or granary, porters from carrying sacks of grain, and those who use straw for packing purposes. The most severe attacks, however, have occurred in those who sleep upon infected straw mattresses. The mite is predatory and parasitic upon the larvæ of grain destroying insects.

Pathology.—The lesions are doubtless due to the bite of the pediculoides. The microscopic appearances are those of an urticarial wheal. The parasites do not burrow as do those of scabies.

Diagnosis.—The affection may be confounded with scabies, urticaria or chickenpox. The long duration, the uniform presence of erythemato-urticarial lesions surmounted by vesicles, the freedom of involvement of the hands, and the history of contact with grain or with a straw mattress are highly suggestive.

Treatment.—Frequent baths and the use of a weak sulphur ointment will remove the parasite. Reinfection must be prevented by the disinfection or destruction of straw mattresses, bed and body clothing, etc.

PEDICULOSIS

Derivation.—*Pediculus*, a little foot.

Synonyms.—Lousiness; phthiriasis.

Definition.—Pediculosis is a contagious animal parasitic disease, characterized by the presence of the pediculi, hemorrhagic points and scratch marks.

Symptoms.—There are three varieties:

1. Pediculosis capitis.
2. Pediculosis corporis.
3. Pediculosis pubis.

Pediculosis Capitis

Pediculosis capitis or capillitii is due to the invasion of the scalp by the pediculus capitis, or head-louse.

It is characterized by severe itching, which excites scratching and leads to the formation of excoriations with serous, purulent or sanguineous exudation. This dries in the form of crusts and mats the hair together. A foul odor is usually present. Owing to the irritation, the post-cervical glands may become enlarged and in some cases suppurate. The occipital region is the most frequent seat of this pustular dermatitis.

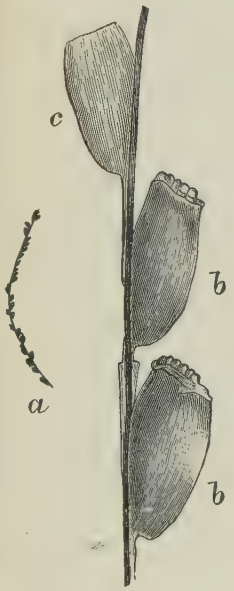


Fig. 61.

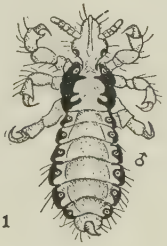


Fig. 62.

Fig. 61.—Ova of Pediculi Capitis. *a*. Hair with numerous ova upon it. *b*. *b*. Magnified ova attached to hair: operculum attached. *c*. Empty ovum, operculum fallen off.

Fig. 62.—Male Pediculus Capitis.—(*After Kuechenmeister.*)

Scattered papules, pustules, and excoriations are frequently seen about the face and neck.

Pediculi are present in varying numbers, and ova or "nits" in abundance. Ova are grayish, translucent, pyriform bodies

attached to the hair by a membranous sheath. They hatch out in from three to eight days. Pediculosis capitis is far more common in children than in adults.

Diagnosis.—Owing to the presence of the pediculi and the "nits," the diagnosis is, as a rule, easy. Every pustular eczema in the occipital region should be regarded with suspicion, and warrants a search for pediculi and ova.

Treatment.—The object of treatment is to kill the pediculi, devitalize the ova, and subdue the accompanying inflammation. Among the most popular and efficacious remedies is petroleum, (kerosene), either pure or with equal parts of olive oil and balsam of Peru. It should be thoroughly applied to the scalp for one or two nights, followed in the morning by a shampoo of the scalp with soap and water or tincture of green soap. Other remedies, such as tincture of cocculus indicus, fluid extract of staphisagria (f℥ij to f℥iv dilute acetic acid), or corrosive sublimate (gr. j-iv to f℥j), may be employed.

Where there is much pustulation and crusting the following ointment may be applied:

℞. Hydrarg. ammoniat..... gr. xxx
Petrolati..... ℥j

For the removal of "nits," alkaline solutions (such as carbonate of soda, borax, etc.) or acid solution (dilute acetic acid) should be frequently applied.

There is rarely need of sacrificing the hair in women, although this may be done in children.

Pediculosis Corporis

This is produced by the pediculus corporis or vestimenti, a parasite larger than the scalp louse. It resides in the seams of the underclothing, where the ova are deposited. They hatch out in about six days. The louse is merely present upon the skin when foraging.

The perambulation of the parasite produces intense itching, which gives rise to violent scratching. As a result, linear scratch marks, blood crusts, and in chronic cases pigmentation and thickening may be seen. The parts affected are those

Fig. 63.—Pediculosis Corporis.

coming in contact with the seams of the undergarments—namely, the scapular regions, the chest, waist and thighs. Hemorrhagic puncta mark the sites from which pedicull have extracted blood.

The disease is common among the poorer classes in adults of middle or advanced age. It is rare in children.

Diagnosis.—The characteristic features are the presence of excoriations, nail marks, blood crusts, and hemorrhagic puncta upon the scapular region and around the waist. Careful search in the seams of the under-garments will usually reveal the existence of the pediculi.

Treatment.—The most important part of the treatment is the disinfection of the clothes and the bed linen. These should be thoroughly boiled or baked.

FIG. 64.—FEMALE PEDICULUS CORPORIS.—(*After Kuechenmeister.*)

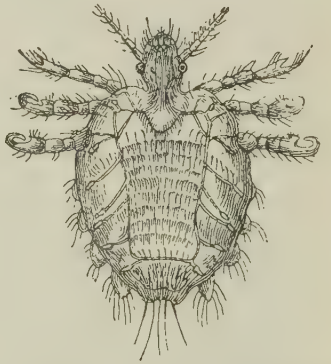


FIG. 65.—PEDICULUS PUBIS.—(*After Schmarda.*)

A lotion of carbolic acid or thymol will relieve the itching quite effectually.

Where disinfection of the clothing can not be carried out it is best to prescribe an ointment of sulphur (℥j to ℥j) or staphisagria (℥ij to ℥j).

PEDICULOSIS PUBIS

The pediculus pubis, or crab louse, is responsible for this form. It is the smallest of the pediculi, and is found clinging tenaciously to the hair, with the head buried in the follicular orifice. The "nits" are seen attached to the hair shaft.

Itching about the genitalia, variable in degree, is the most prominent symptom. Hemorrhagic puncta, papules, and excoriations may also be present.

The pubis and perineum are usual regions involved. Occasionally the axillæ and sternal region are attacked, and in rare cases the beard, eyebrows, or eyelashes.

The disease is almost exclusively observed in adults, and is usually contracted during sexual intercourse.

Diagnosis.—The diagnostic features are itching about the genitalia and the presence of pediculi and ova.

Treatment.—The parts should be washed with soap and water twice daily. Lotions, being more cleanly than ointments, are to be preferred. Corrosive sublimate, the tincture of cocculus indicus or the fluid extract of staphisagria are all excellent applications:

℞. Hydrarg. bichlorid..... gr. j

or

Ext. staphisargiæ fld..... f ℥ij
Acidi acetici dil..... f ℥vj

White precipitate (gr. xx to ℥i.) or mercurial ointment are both effective. The latter in persons with sensitive skins may give rise to a dermatitis. Vinegar, dilute acetic acid, and soda and borax solutions are of value in effecting the removal of the nits.

CYSTICERCUS CELLULOSÆ CUTIS

Symptoms.—*Cysticerci* are occasionally observed in the skin as rounded, firm, elastic, pea- to walnut-sized tumors. They occur upon the trunk and extremities, where they may remain unchanged for years.

They are to be distinguished from gummata, sarcomata, etc. The contents, under the microscope, are seen to contain the parasites.

DRACUNCULOSIS

Synonyms.—Filaria medinensis; Guinea worm.

Symptoms.—The lesions, which consist of pea-sized or larger vesico-papules, are due to the presence of the *dracunculus medinensis*. The worms may at times be felt beneath the skin as a coil of soft string. They are swallowed in their larval form in drinking water, and migrating through the tissues, endeavor to effect an exit through the skin. The foot is the region usually affected.

The mature female is a cylindric nematode, twenty-five to thirty inches in length, and one-tenth of an inch wide. The disease is met with only in tropical countries.

Treatment.—The best treatment is the injection of a solution of 1:1000 bichlorid of mercury, in equal parts of alcohol and water followed in a few days by incision and extraction of the dead worm.

IXODES

Synonym.—Wood-tick.

Symptoms.—These parasites reside but temporarily upon the skin. The proboscis of the tick is inserted into the skin for the purpose of sucking the blood. The animal may thus remain for several days, until the body swells to the size of a pea or bean.

Treatment.—Forcible attempts at removal of the invader should be avoided, as the mandibles might thus be detached in the skin, giving rise to pain and subsequent inflammation. A drop of turpentine or benzine placed upon the head kills the parasite, thus causing it to relinquish its hold.

LEPTUS

Synonyms.—Harvest-bug; leptus autumnalis, mower's mite.

Symptoms.—The *leptus* is a minute, brick-red or yellowish-red insect found in summer and autumn upon bushes and grass.

It attacks man by burying its head in the follicular orifices particularly of the lower limbs.

Treatment.—This consists in the application of carbolized oil, balsam of Peru, sulphur ointment, etc.

ŒSTRUS

Synonyms.—Gad-fly; bot-fly.

Symptoms.—The larvæ or ova of the gad-fly are deposited in the skin by the adult insect. A painful furuncular swelling occurs which goes on to suppuration. The larvæ may be expressed with the pus. The affection is common in the tropics.

Treatment.—The furuncular openings should be syringed with a solution of carbolic acid (1 to 40).

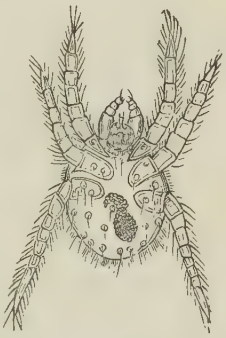


FIG. 66.—LARVA OF THE LEPTUS.—(*Kuechenmeister.*)

PULEX PENETRANS

Synonyms.—Sand-flea; jigger.

Symptoms.—The minute sand-flea penetrates the skin usually at the toes, giving rise in about a week to painful edema, pustulation, and at time ulceration and gangrene.

The affection is confined to tropical countries.

Treatment.—The insect should be extracted with a blunt needle. The application of chloroform will kill the parasite.

PULEX IRRITANS

Synonym.—Common flea.

Symptoms.—The flea-bite consists of a hemorrhagic punctum with an erythematous halo. In individuals with sensitive skin a wheal develops.

Treatment.—Lotions of ammonia, thymol or carbolic acid.

CIMEX LECTULARIUS

Synonym.—Bed-bug.

Symptoms.—This parasite preys upon the skin, sucking the blood of the individual attacked. An inflammatory papule or wheal with a central hemorrhagic punctum marks the site of the bite.

Treatment.—Consists of applications of ammonia water, carbolic acid solution, etc.

CULEX

Synonyms.—Gnat; mosquito.

Symptoms.—The lesion produced by the mosquito consists of an erythematous spot or a wheal.

Treatment.—A solution of carbolic acid (1–40) or ammonia diluted will relieve the itching.

BROWN-TAIL MOTH DERMATITIS

This affection is due to the irritant effect of the "nettling hairs" of the brown-tail moth (Porthesia crysorrhea). About half an hour after contact, reddish patches appear, followed by urticarial wheals. At times a more severe dermatitis may develop. The lesions are usually seen on the face, neck or arms. The itching is usually severe. The affection is observed during the months of May and June.

The dermatitis is due to an irritant substance carried on the "nettling hairs" on the cocoon, ovum, moth and caterpillar. The minute hairs charged with the irritant substance penetrate the skin. Hairs lying in the clothing may cause eruption upon the body.

The affection lasts for a number of days or weeks.

Treatment.—Infected clothing should be discarded or destroyed. It is suggested that a solution of bichloride of mercury 1–2000 be applied to the affected areas and flexible collodion then painted on.

CLASS IV.—HEMORRHAGIÆ—HEMORRHAGES

PURPURA

Derivation.—Πορφύρα, purple.

Definition.—Purpura is a hemorrhagic manifestation characterized by the appearance on the skin of variously sized and shaped reddish-purple macules, not disappearing under pressure.

Purpura is not a disease but a symptom. It accompanies many infectious processes. There are three types of purpuric manifestations to which reference is particularly appropriate in works on diseases of the skin.

Symptoms.—These are distinguished by the premonitory and concomitant constitutional symptoms, by the extent of hemorrhagic extravasation, and by the cause:

1. Purpura simplex.
2. Purpura rheumatica.
3. Purpura hemorrhagica.

PURPURA SIMPLEX

The eruption usually comes out suddenly and consists of pinhead- to pea-sized, round, oval, or irregular claret-red or purplish spots. They are circumscribed, smooth, and non-elevated, and are symmetrically distributed, tending particularly to occur upon the lower extremities. Subjective symptoms are, as a rule, absent. There is commonly no systemic disturbance, and the disease tends to a favorable termination in the course of a few weeks.

Purpura Rheumatica (*Peliosis Rheumatica*)

This form is ushered in with fever, lassitude, anorexia, and severe rheumatoid pains, particularly in the lower extremities, the joints of which may be swollen. The eruption consists of well-defined, split-pea to fingernail-sized hemorrhagic patches

which may be slightly elevated or level with the skin. At first of a pinkish, reddish, or purplish color, they later pass through the color transitions of all ecchymoses. The eruption is more or less generalized, but is most marked upon the extremities. The disease may last a few weeks, or persist, in the form of relapses, for several months. It is sometimes associated with erythema multiforme.

Purpura Hæmorrhagica (*Morbus maculosus Werlhofii; land scurvy*)

The onset of the hemorrhagic form is signalized by the occurrence of fever and symptoms of systemic depression. The eruption consists of hemorrhagic patches varying in size from a small coin to the palm of the hand, which come out suddenly and in considerable numbers. The trunk and extremities are the regions usually involved. At the same time bleeding from the mouth, gums, nostrils, bowels, bladder, etc., may take place. The disease may terminate in a fortnight or may continue for weeks. In a certain number of cases it proves fatal.

Etiology.—Purpura is usually due to some infection or intoxication which influences either the blood or the permeability of the vessel walls. This disease, especially the hemorrhagic type, occurs more often in debilitated individuals. Some look upon the vasomotor apparatus as the agency primarily at fault; others believe purpura to be an infectious disease. Such drugs as arsenic, potassium iodid, chloral, quinin, and the salicylates may produce hemorrhagic eruptions.

Pathology.—As a result of an alteration in the blood or blood-vessel walls, an extravasation of blood takes place into the tissues. After a variable period of time this undergoes resorption, the changes in the blood-pigment producing the varying colorations. The process is not attended with inflammation.

Diagnosis.—The evident hemorrhagic nature of the lesions and their failure to disappear upon pressure distinguish them as purpuric. Purpura hæmorrhagica may be confounded with scorbutus:

Scorbutus	Purpura Hæmorrhagica
1. Occurs in those subject to lack of vegetable food and to bad hygiene.	1. No such etiologic relationship.
2. Definite antecedent symptoms: weakness, impaired circulation, etc.	2. Antecedent signs slight or absent.
3. Onset slow.	3. Onset sudden.
4. Gums spongy, swollen, and bleeding; teeth loose.	4. Gums often bleeding but not swollen.
5. Severe muscular pains.	5. Less marked.
6. Brawny infiltration of lower extremities.	6. Not present.
7. Hemorrhages from mucous membranes not as a rule profuse.	7. Hemorrhages from mucous membranes often so severe as to prove fatal.

Prognosis.—In purpura simplex and rheumatica the prognosis is favorable, recovery taking place in several weeks or months. In purpura hæmorrhagica the prognosis is more guarded, a certain number of cases succumbing to internal hemorrhage. Sources of focal infection should be sought and if possible eradicated. A general and thorough physical examination should be made.

Treatment.—The treatment of purpura must be adapted to the exigencies of the individual case. Ergot, tincture of the chlorid of iron, quinin, turpentine, and the mineral acids are useful. In purpura rheumatica and hæmorrhagica the patient should be confined to his bed and placed upon a nutritious and easily assimilable diet. Locally, astringent lotions and ice, if necessary, may be employed.

CLASS V.—HYPERTROPHIÆ—HYPERTROPHIES

LENTIGO

Derivation.—*Lens*, a lentil.

Synonyms.—Freckles; ephelides.

Definition.—Lentigo consists of pinhead- to pea-sized, yellowish, brownish or blackish spots of pigment, occurring chiefly on the face and hands.

Symptoms.—The lesions, commonly known as freckles, are pinhead- or pea-sized, round, oval or irregular, and of a yellowish, brownish or blackish color. They occur chiefly upon the face and the backs of the hands, although they are occasionally observed on the trunk. They are more common during adolescence than at any other period, and are most marked in individuals of blond complexion, particularly red-haired subjects. They ordinarily make their appearance during the summer, and fade partially or completely during the cold seasons.

Etiology.—The condition is due to exposure to the light and heat of the solar rays. Some writers believe that a congenital predisposition is necessary.

Pathology.—Freckles are due to an increased deposition of pigment in circumscribed areas of cells in the basal layer of the epidermis.

Prognosis.—A disappearance of the freckles may be brought about by treatment, but they are extremely apt to return.

Treatment.—The object of treatment is to produce an exfoliation of the epidermal cells containing the pigment. For this purpose solutions of corrosive sublimate, acetic acid, and like preparations are used. Bulkley advises the following:

℞. Hydrarg. chlor. corrosiv..... gr. vj
Acidi acetic. dil..... f ʒij
Boracis..... gr. xl
Aq. rosæ..... f ʒiv M.

Sig.—Apply night and morning; at first gently, later vigorously.

The following ointment may be used with advantage:

℞. Acidi Salicylici..... gr. x-xxx
Hydrargyri ammoniati..... gr. xxx-ʒi
Lanolini vaselini.....āā ʒiv

Sig.—Use the weaker applications first and then proceed to the stronger.

CHLOASMA

Derivation.—Χλοάζειν, to be pale green.

Definition.—Chloasma is characterized by yellowish, brownish or blackish pigmentation of the skin, occurring in variously sized and shaped patches or as a diffuse discoloration.

Symptoms.—The patches may be any size from a coin to the palm of the hand or larger. They are irregular or rounded, with fairly defined borders. They are usually fawn-colored, yellowish, brownish or blackish (melanoderma). In the diffuse form the color merges imperceptibly into the surrounding skin.

The affection is most frequently seen upon the face.

Etiology.—There are two varieties:

(1) Chloasma of External origin due to External causes.

(2) Chloasma of Internal origin due to Internal causes.

Under the first type may be included all of the pigmentations that result from the use of local irritants, such as sinapisms, blisters, scratching, pressure, friction, solar rays, etc.

The second type includes in its category the pigmentation seen in association with pregnancy, diseases of the female reproductive organs, Addison's disease, tuberculosis, cancer, malaria, etc. In these cases the pigmentation is usually diffuse and may involve large areas of the skin.

Chloasma Uterinum.—This is most commonly seen during pregnancy, although it is often observed in pathologic conditions of the uterus and the ovaries. The patches are yellowish or brownish in color, and are usually located about the forehead and eyelids.

In *Addison's disease* the pigmentation is of a brownish, olive-greenish, or bronze tint. The prolonged administration

of *silver* may produce a permanent bluish-gray or slate-colored discoloration of the skin (*argyria*).

A diffuse brownish pigmentation results in rare cases from the long continued use of *arsenic*.

FIG. 67.—CHLOASMA.

Pathology.—The only change is an increased deposition of pigment in the mucous layer of the epidermis. It is not improbable that pathologic conditions of the sympathetic nervous system play an important rôle in symptomatic chloasma. Thus, in pigmentation resulting from affections of the abdominal viscera the solar plexus is probably implicated.

Diagnosis.—Chloasma may be distinguished from tinea versicolor by the presence of the former upon the face, the paucity of the patches, the absence of furfuraceous scaling, and the absence of a fungus parasite.

Prognosis.—Depends upon the removability of the cause. Local applications have, as a rule, but a temporary influence.

Treatment.—If the pigmentation be due to a systemic cause, this should naturally be treated.

Locally the same measures are employed as in the treatment of lentigo. Duhring recommends:

℞. Hydrarg. chlor. corrosiv..... gr. vj
Tr. benzoin. comp..... f ℥iss
Emuls. amygdal. amar..... f ℥iij M.
Sig.—Apply night and morning.

Or the following ointment, recommended by Kaposi, may be employed:

℞. Hydrarg. ammoniat.,
Sodæ biborat.....āā ℥j
Ol. rosmarin..... ♏ x
Ung. simpl..... ℥j.

NÆVUS PIGMENTOSUS

Derivation.—*Nævus*, a mark.

Synonym.—Pigmentary mole.

Definition.—A circumscribed pigmentary deposit, usually congenital, with or without associated hypertrophy of other cutaneous structures.

Symptoms.—A "mole" may consist merely of a circumscribed deposit of pigment, or there may be in addition, hypertrophy of the papillæ, of the hairs, and of the connective tissue. Nevi vary in size from a pea to the palm of the hand or larger, are rough or smooth, elevated or non-elevated, and of a brownish or blackish color.

According to the cutaneous structures involved, various forms of pigmentary nevi are distinguished.

Nævus spilus is a term given to a smooth flat, pigmented nevus devoid of hair.

Nævus pilosus is a pigmented nevus covered with a growth of downy or stiff hairs.

Nævus verrucosus is a pigmented nevus with an irregular or wart-like surface.

Nævus lipomatodes is an elevated pigmented nevus with connective tissue and fat hypertrophy.

Etiology.—Obscure. Hairy moles are apt to be congenital, non-hairy ones acquired. Heredity is often a prominent factor.

Pathology.—There is increased pigment deposit in the cells of the rete mucosum and also in the corium. In nævus verrucosus the papillæ are greatly hypertrophied. There is often more or less connective tissue hypertrophy.

Treatment.—The best method of treatment is the application of the solid carbon dioxide or the electro-cautery. Growths may also be removed by means of the knife. In the treatment of pigmented and hairy moles the hair may be removed by the use of the X-rays.

CALLOSITAS

Derivation.—*Callus*, hard flesh.

Synonyms.—Callus; callosity; tylosis.

Definition.—Callositas consists of hard, circumscribed thickenings of the epidermis, usually involving the hands and feet, and due to hypertrophy of the stratum corneum.

Symptoms.—The condition occurs as slightly elevated, dense, horny patches of variable size, grayish or yellowish in color. The favorite seats are the palms, soles, fingers, and toes. Inflammation is, as a rule, absent, although it may be present and terminate in abscess. When located upon the soles considerable pain in walking is often caused.

Etiology.—The cause of callus is the continued application of pressure or friction; upon the hands, from the use of various tools; upon the feet, from improperly fitting shoes.

Pathology.—The condition is due to a hypertrophy of the horny layer of the epidermis.

Treatment.—When treatment is desired, the hardened skin may be pared off with a sharp knife, after preliminary softening by means of hot water or poultices. Instead of this, a ten to twenty-five per cent. salicylic acid plaster may be worn for several weeks. The plaster should be changed daily and the softened epidermis removed. An efficient treatment is cauterization with a stick of nitrate of silver two or three times a week, the hardened skin being shaved off at each application.

In occupation callosities, change of work is often followed by spontaneous involution.

CLAVUS

Derivation.—*Clavus*, a nail.

Synonym.—Corn.

Definition.—Clavus is a small, circumscribed, deep-seated, painful, horny growth, usually situated upon the toes.

Symptoms.—The usual seat of corns is the dorsal surface of the toes. They are pea-sized, rounded, dense, horny formations, and may be single or multiple. Occurring between the toes, maceration of the epidermis takes place with the production of a *soft corn*. Corns are painful upon pressure, and often spontaneously painful.

Etiology.—Continued pressure or friction from improperly fitting shoes.

Pathology.—There is hypertrophy of the horny layer, as in callus; but there is also a central conical core, the apex of which rests upon the papillary layer of the skin. It is on account of the latter condition that pressure produces pain.

Treatment.—The removal of the cause and the use of properly fitting footwear are important therapeutic measures.

Corns may be removed by paring off the hypertrophied epidermis, after having previously softened it with soap and

hot water. To prevent return, a perforated felt plaster should be worn and daily soaping of the part resorted to.

Instead of using the knife, keratolytic substances, such as salicylic acid, may be used. This may be used as a plaster or in collodion:

℞. Acidi Salicylici..... ʒj
Ol. ricini..... ♏x
Collodii..... f ʒj

The collodion should be painted on twice a day, a hot foot bath being taken every few days to remove the softened epidermis. Soft corns may be treated with the stick of nitrate of silver and the interposition of absorbent cotton.

CORNU CUTANEUM

Derivation.—*Cornu*, a horn.

Synonym.—Cutaneous horn.

Definition.—Cornu cutaneum is a circumscribed horny outgrowth of the skin of variable size and shape. The condition is very rare.

Symptoms.—Cutaneous horns are hard, dry, laminated excrescences, not differing materially from the horns of lower animals. They are grayish, yellowish or brownish in color, usually conical and tapering, and are apt to be curved or twisted rather than straight. They are commonly small, about one inch in length, although horns twelve inches long have been observed. They are usually single.

The horn is concave at its skin insertion, the concavity resting upon normal or hypertrophied papillæ. There is, as a rule, no pain unless the part is injured, when inflammation and suppuration may result. When the horn is shed, as occasionally takes place, reformation usually occurs. Quite a proportion of cases terminate in epithelioma.

The scalp and face are the seats of predilection.

Etiology.—The causes are not known. The condition rarely occurs before the age of forty. Horns may have their origin in sebaceous cysts, warts or scars.

Pathology.—Horns are made up of densely laminated corneous cells arranged concentrically in columns. The

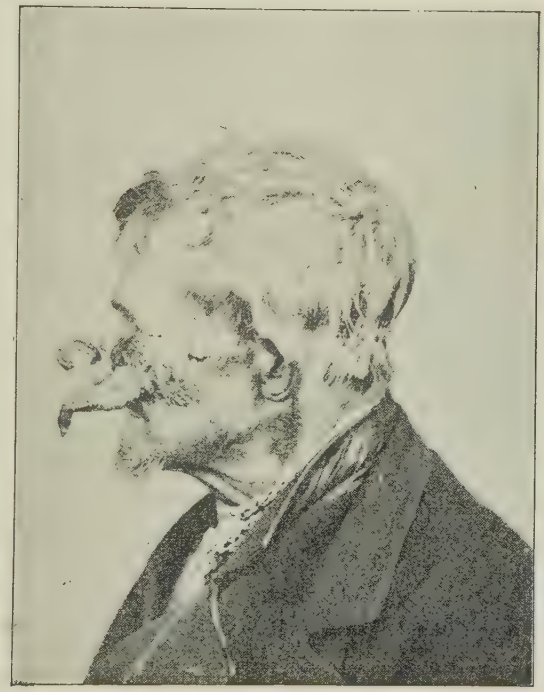


FIG 68.—CUTANEOUS HORNS.—(*After Van Harlingen.*)

growth has its origin in the rete mucosum; the papillæ at the base are often hypertrophied. Epitheliomatous degeneration not infrequently takes place.

Treatment.—Extirpation, followed by cauterization of the base.

ICHTHYOSIS

Derivation.—Ἰχθύς, a fish.

Synonyms.—Fish skin disease; xeroderma.

Definition.—A congenital chronic hypertrophic disease, characterized by dryness and scaliness of the skin and a variable amount of papillary hypertrophy.

Fig. 69.—Ichthyosis.—(*After Jackson.*)

Symptoms.—Two forms of the disease are distinguished, ichthyosis simplex and ichthyosis hystrix.

Ichthyosis simplex is the common variety encountered. There may be merely dryness and harshness of the skin, with fine, furfuraceous scaling (*xeroderma*). Frequently, however, the disease is more marked, exhibiting variously sized reticulated scales, which may be small and thin or large and thick, resembling fish-scales. Upon the arms and legs the epidermis forms diamond-shaped or polygonal plates, bounded by the natural furrows of the skin.

Ichthyosis hystrix is a rarer and more severe variety. It is characterized by papillary hypertrophy, showing itself clinically as irregular or linear, corrugated, warty or spinous, horny patches.

Ichthyosis simplex involves more or less the entire body surface. It is most marked, however, upon the extensor surfaces of the arms and legs. Ichthyosis hystrix affects only limited areas of the skin, such as the arm, neck, axilla, umbilicus, etc.

The course of ichthyosis is eminently chronic. The disease begins usually in the first or second year of life, increases in

severity until adult age is reached, and then remains stationary, thus continuing throughout the patient's lifetime.

Ichthyosis is markedly influenced by the seasons. It is always worse in cold than in hot weather. In the spring and summer, when perspiration is increased, great improvement takes place.

The disease is not inflammatory, and there is, as a rule, no itching. It is, however, not infrequently complicated by eczema.

Etiology.—Ichthyosis is a congenital disease, although it does not, as a rule, manifest itself before the first or second year. An hereditary influence exists in some cases. Hypothyroidism is evident in some cases.

Pathology.—The pathologic process consists of a hyperplasia of the cells of the corneous and mucous layers of the epidermis. The papillary layer of the corium is in many cases also hypertrophied.

Diagnosis.—The characteristic features of ichthyosis are: the harsh, dry skin; furfuraceous scales and polygonal plates; the localization of the eruption; the history and the absence of inflammatory symptoms.

Prognosis.—The prognosis is unfavorable as to cure. Considerable relief, however, may be afforded by proper treatment and the skin can be kept in smooth and supple condition. Patients often improve as the age of puberty is reached.

Treatment.—The cautious use of thyroid extract is well worth carrying out. External treatment is to be solely relied upon. This has for its object the removal of the epidermal scales and the softening of the skin with unguentous substances.

Baths are of great value and are to be employed frequently. Either a simple warm bath or an alkaline bath (sodium bicarb., ℥v ℥viij to bath) may be used. In mild cases frequent bathing followed by the inunction of some oily or fatty substance will be all-sufficient. For this purpose, petrolatum,

adeps, olive oil, oil of sweet almonds, diluted glycerin, etc., may be employed. A simple and efficient inunction consists of:

℞. Acidi—salicylici..... gr. x-xx
Lanolini,
Petrolati.....āā ℥j

In severe cases the following plan is advised; Friction with soft soap twice daily for four or five days, followed by a bath and the inunction of a simple ointment.

Iodid of potassium in ointment form has been highly spoken of.

℞. Potass. iodid..... gr. xx
Olei bubuli,
Adipis..... āā f ℥ss
Glycerinæ..... f ℥j M.
Ft. ung.

In ichthyosis hystrix, caustics, the Paquelin cautery or the knife may be necessary to remove the hypertrophic tissues.

VERRUCA

Derivation.—*Verruca*, an excresence.

Synonym.—Warts.

Definition.—Verruca consists of a pinhead- to bean-sized circumscribed elevation of the skin due to epidermal and papillary hypertrophy.

Symptoms.—Various forms of warts are distinguished.

Verruca Vulgaris.—This is the common wart seen upon the hands. It is a pea-sized, rounded, rough or smooth, broad-based elevation, yellow or brownish in color. It may occur singly or in numbers.

Verruca Plana.—This is distinguished from the ordinary wart by being flat and broad. Flat warts are pea- or finger-nail-sized, but slightly elevated, and of a brownish or blackish color. They occur in numbers, usually upon the backs of elderly individuals (verruca senilis). Occasionally numerous

small flat warts occur upon the face, developing with considerable rapidity.

Verruca Filiformis.—These warts are slender, thread-like outgrowths about one-eighth of an inch in length, occurring chiefly upon the face, eyelids, and neck.

Verruca Digitata.—These are slightly elevated pea- to finger-nail-sized excrescences, with numerous digitations branching out from the base. The scalp is the most common site.

Plantar warts have been observed within recent years with apparently increasing frequency. From one to a half dozen may be present upon the soles of the feet; they are excruciatingly painful. Epidemics may occur in house holds or boarding schools.

Verruca Acuminata (*Pointed Condyloma, Veneral Warts*).—These are pinkish or reddish, sessile or pedunculated, pointed vegetations occurring about the muco-cutaneous surfaces (penis, labia, anus, mouth, etc.) of young individuals. Occurring upon the genitals, they are bathed in an offensive puriform secretion. These warts grow rapidly, not infrequently reaching the size of an egg. They bear at times strong resemblance to a raspberry, cauliflower, or cockscomb.

Etiology.—Warts are due to micro-organisms; they are autoinoculable and contagious. Wile and Kingery of the University of Michigan have recently carried out experiments tending to prove that warts are due to a filterable organism.

Venereal warts are caused by contact with irritating secretions which contain, in all probability, the causal micro-organism.

Pathology.—Warts consist of a hyperplasia of the papillæ of the corium and the overlying layers of the epidermis. A vascular loop is found in the center of each wart.

In the acuminate variety the connective tissue and vascular hypertrophy is marked, while the horny layer is but slightly hyperplastic.

Treatment.—Warts may be removed by caustics, excision, erasion, or electrolysis. Caustics such as nitric acid, chromic acid, or glacial acetic acid are sometimes used. These should be cautiously applied from time to time until the disappearance of the wart A rapid method is to scrape away the wart with a curet and apply the stick of nitrate of silver to the base.

An excellent method is cauterization with a pointed thermocautery. Fulguration with the electric spark produces much the same result. In the multiple flat warts (*verruca plana juvenilis*) the X-rays often accomplish good results. Although in some cases the ultra violet light is superior.

In the treatment of plantar warts the X-rays constitute the sovereign remedy, one or three properly dosaged treatments often accomplishing their removal.

Salicylic acid in collodion or alcohol is sometimes successful in causing the disappearance of warts.

℞. Acidi salicylici..... ʒj
Spts. vini rect..... f ʒj.
Sig.—Apply two or three times a day.

℞. Acidi salicylici..... ʒj
Collodii flex..... f ʒj
Sig.—Apply twice a day.

The use of a 1:500 corrosive sublimate solution is sometimes efficacious, as is also an alcoholic solution of resorcin, thirty grains to the ounce.

Filiform or digitate warts may be snipped off with a curved scissors, the base being subsequently cauterized.

Venereal warts may be washed with solutions of alum, tannin, or chlorinated soda, and then dusted with calomel, or they may be cauterized with nitric, carbolic, or chromic acid. Cleanliness should be rigorously enjoined.

MOLLUSCUM EPITHELIALE

Derivation.—*Molluscus*, soft.

Synonym.—Molluscum contagiosum.

FIG. 70.—MOLLUSCUM CONTAGIOSUM.
Lesions numerous and small Each lesion has a central opening

Definition.—Molluscum epitheliale is an epithelial disease characterized by pinhead- to pea-sized or larger, smooth, semi-globular, waxy-white or pinkish elevations.

The disease is not common.

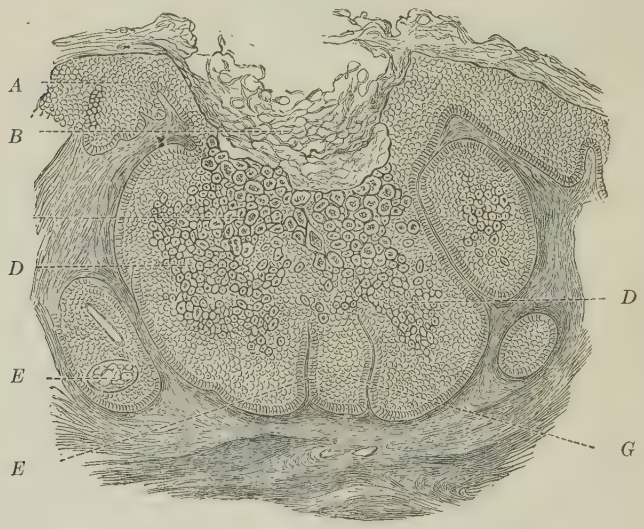


FIG. 71.—MOLLUSCUM CONTAGIOSUM. ×125.—(*From Crocker's "Diseases of the Skin."*)

A. Rete mucosum. B. Plug formed by accumulation of molluscum bodies. C. Cells of rete in process of conversion into molluscum bodies. D. D. Cells in an earlier stage of conversion into molluscum bodies. E. Sebaceous gland of small hair follicle. F. Fibrous septum. G. Pseudo-lobe of tumor.

Symptoms.—The lesions are discrete, usually split-pea-sized, of the color of the skin or pinkish, with often a distinct waxy appearance. The summits are somewhat flattened and contain a central, darkish opening from which a cheesy secretion may be expressed. They are usually situated upon the face, particularly about the eyelids, cheeks, and chin. They increase slowly in size, eventually terminating in suppuration and disintegration. As a rule no scarring is left.

The lesions are few, a half-dozen or more being the usual number present.

Etiology.—The disease occurs chiefly in the children of the poorer classes. Outbreaks among large numbers of persons have occurred in institutions for children, and also in gymnasiums, probably from the use of infected towels. Wile and Kingery have recently demonstrated that molluscum is due to a filterable virus. They produced typical lesions in volunteer human subjects with sterile fragments of molluscum tumors filtered through a Berkfeld filter.

Pathology.—The disease consists of an enormous hyperplasia of the cells of the rete mucosum, the process in all probability beginning in the hair-follicles. The center of the molluscum tumor is made up of a number of lobules filled with ovoidal or rounded, fatty-looking, degenerated epithelial cells, designated as "molluscum bodies."

Diagnosis.—The characteristic features of the disease are: the size of the lesions, their waxy appearance, the presence of a central orifice giving exit to whitish secretion, and the history and course of the affection.

Prognosis.—The condition sometimes disappears spontaneously. It is readily amenable to treatment.

Treatment.—The tumors may be destroyed by incision, expression of their contents, and cauterization of the cavity with the stick of the nitrate of silver or with the pointed electro-cautery. Boring with a pointed wooden applicator immersed in pure carbolic acid is a simple and efficacious mode of treatment.

Again, they may be curetted away or snipped off with a pair of curved scissors. Pedunculated growths may be ligated. Where the lesions are small, the following ointment may be used:

℞. Hydrarg. ammoniat..... ℥j
Ung. zinci oxidi..... ℥j

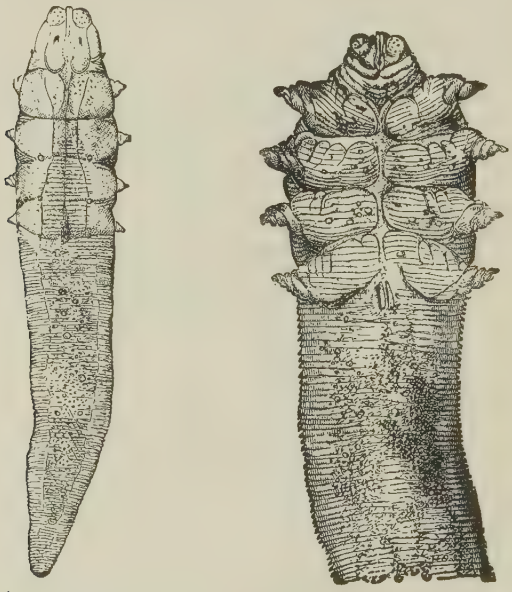
COMEDO

Derivation.—*Comedo*, glutton; spendthrift.

Synonyms.—Blackheads; flesh-worms.

Definition.—Comedo is a condition characterized by black, pinhead-sized plugs of sebum lying in the mouths of the sebaceous ducts.

Symptoms.—Comedones appear as yellow, brown, blue or black points involving chiefly the nose, forehead, and cheeks.



FIGS. 72 and 73.—DEMODEX FOLLICULORUM. Highly magnified.—(*After Nayler.*)

They may, however, occur upon other parts of the body. When the comedo is squeezed out, one sees a yellowish-white, maggot-like body with a dark external point. The dark color is due partly to dust from without and partly to chemical changes in the secretion. Comedones are liable to undergo inflammation and give rise to acne papules or pustules.

Crocker mentions a variety of comedo (*grouped comedones*) characterized by closely aggregated, often symmetric lesions, occurring upon the temples and cheeks of children and not subject to inflammation.

Etiology.—Puberty, dyspepsia, anemia, constipation, and menstrual disturbance are predisposing causes. A microbacillus found in enormous numbers in the comedo, is regarded by Sabourand and others as the cause of the condition.

Comedones of a rather different character are often produced artificially by deposition from the atmosphere of various solid impurities. Thus, tar, brass, and iron workers are frequently sufferers from this affection.

Pathology.—Unna claims that there is a thickening of the corneous layer of the external surface and consequently a

FIG. 74.—The author's comedo extractor; the smaller loop is used for blackheads and the larger one for pustules.

closure of the duct. The horny lining of the ducts undergoes similar changes, and scales are thrown into the canal, which, combining with the sebum, form the comedo.

The *acarus*, or *Demodex folliculorum*, is sometimes accidentally present in comedones.

Prognosis.—Favorable. The condition is apt to recur.

Treatment.—The systemic treatment aims at a correction of the predisposing causes. Strychnia, iron, cod-liver oil, and the hypophosphites are often required.

Locally, applications designed to remove the plugs are indicated. The larger ones should be squeezed out either with the fingers or a comedo extractor. Soaps containing sand or chalk are sometimes used. The tincture of green soap (*tinctura saponis viridis*) is an excellent remedy in sluggish cases. Equal parts of alcohol and ether make a nice sebaceous solvent.

The appended formula is at times very efficacious.

℞. Sulph. præcip..... ℥j
Saponis mollis..... ℥j
Pulv. cretæ..... ℥j-ij
Ung. zinci oxidi..... ℥j

Or the following lotion may be used:

℞. Acidi borici..... ℥j
Spts. vini rect..... f ℥iij

MILIUM

Derivation.—*Milium*, a millet-seed.

Synonyms.—Grutum; strophulus albidus.

Definition.—A condition characterized by the formation of small, round, yellow or pearly-white sebaceous bodies just beneath the epidermis.

Symptoms.—The lesions are most commonly found upon the forehead and cheeks. They vary in size from a millet-seed to a pinhead, are translucent, and project slightly above the level of the skin. They at times undergo calcareous change, producing the so-called *cutaneous calculi*.

Etiology.—They occur in infants and young adults. Cause is obscure. Develop at times under scars and in the sites of former attacks of erysipelas and pemphigus.

Pathology.—Milia are believed to be due to the retention of sebaceous matter in superficially seated glands. Under the microscope they are found to consist of concentric layers of epithelial cells around a central core of fat and cells, and surrounded by a thin capsule.

Treatment.—In infants, soap and water are all that is necessary to remove the bodies. In adults the lesions should be incised and the contents expressed. If they recur, the sac should be touched with the tincture of iodin. Hardaway recommends electrolysis.

CYSTIS SEBACEA

Derivation.—Στέαρ, fat.

Synonyms.—Wen; sebaceous cyst or tumor; atheroma; steatoma.

Definition.—A wen is a cyst containing sebaceous matter.

Symptoms.—The cysts are pea- to egg-sized, rounded or oval tumors. The seats of predilection are the scalp, face, neck and back. They are painless unless inflamed, and the overlying skin is pale. They may remain stationary for years, may grow slowly, or may undergo inflammation and suppuration.

Pathology.—They are due to accumulations of sebaceous matter in the glands; in other words, they are retention cysts.

Treatment.—The overlying skin should be incised and the tumor with its capsule carefully dissected out. If the capsule is allowed to remain, recurrence invariably follows.

KERATOSIS PILARIS

Derivation.—κέρατ, a horn.

Synonyms.—Lichen pilaris.

Definition.—Keratosis pilaris is a hypertrophic affection characterized by pinhead-sized epidermal accumulations at the mouths of hair follicles.

Symptoms.—The extensor surfaces of the arms and thighs are the usual seats of the eruption. The lesions consist of closely aggregated pinhead-sized, conical elevations corresponding to the orifices of the hair-follicles. A hair pierces each elevation or is buried within it. The lesions are grayish, whitish, or blackish in color, and are made up of epidermal cells and sebum. The skin is dry and rough, and feels to the hand passed over it not unlike a fine nutmeg-grater.

As a rule, itching is absent. The course of the disease is chronic.

Etiology.—Puberty and infrequent bathing seem to be causal factors. Hyde believes the affection to be more common in people of unusual physical vigor.

Pathology.—The condition consists of an accumulation of horny cells and sebaceous material at the orifices of the hair-follicles. Inflammatory changes are sometimes present.

Diagnosis.—Keratosis pilaris is, as a rule, easy of diagnosis. It may be distinguished from "goose-flesh" (cutis anserina) by the permanence of the lesions as compared with their evanescence in the latter affection.

The lesions of the small papular syphiloderm are more generally distributed, tend to group, and are deeper seated and less scaly than those of keratosis pilaris.

Prognosis.—Favorable.

Treatment.—Simple or alkaline warm baths, with the use of ordinary soap or sapo mollis, will usually suffice. In some cases this may be followed by the inunction of one of the simple ointments. The X-rays are useful.

Later, daily cold sponge baths and friction.

KERATOSIS FOLLICULARIS

Synonyms.—Psorospermosis; Darier's disease (psorospermose folliculaire végétante).

Definition.—Keratosis follicularis is a hypertrophic affection characterized by pinhead- to pea-sized, dark-colored, acuminated or rounded papules, marking the sites of horny plugs imbedded in funnel-shaped dilatations of the pilo-sebaceous follicles.

Symptoms.—The disease is exceedingly rare. The favorite seats of the eruption are the scalp, face, chest, loins, and inguinal region. The dark-colored papules are surmounted here and there by horny, spinous projections, which, when removed, leave pit-like depressions. Papillomatous vegetations are prone to occur upon opposing skin surfaces, as in the inguinal region. These vegetations are bathed in a purulent

secretion, which emits an extremely offensive odor. The disease runs a chronic and progressive course.

Etiology.—The disease is more common in males than in females, and occurs chiefly in childhood and adolescence. Heredity and contagion are possible causal factors.

Pathology.—The disease is primarily a hyperkeratosis of the hair and sebaceous follicles, with secondary hyperplasia of the interpapillary projections of the rete mucosum.

Prognosis.—No cures have been reported, but improvement may take place under treatment.

Treatment.—Frequent baths and inunctions with sapo mollis may be employed, followed by the use of a salicylated dusting powder.

HYPERTRICHOSIS

Derivation.—Ὑπερ, in excess; θριξ hair.

Synonyms.—Hirsuties; hairiness; hypertrophy of the hair: superfluous hair.

Definition.—Hypertrichosis is a condition characterized by excessive hair-growth either as regards number or size.

Symptoms.—Hair may grow to an unnatural degree upon parts normally the seat of hair, as the mustache, beard, eyebrows, etc., or there may be an abnormal growth upon non-hairy regions. In the latter case the lanugo hairs of the part are hypertrophied. This is the condition so frequently seen upon the upper lips and chins of women.

Excessive hair-growths occurring upon moles constitutes the so-called *nævus pilosus.*

Etiology.—The cause of hirsuties is obscure. Heredity is observed in the most extensive cases. The condition may be congenital or acquired; when acquired it is apt to develop after the menopause. Endocrine disturbances may be causative in some cases. Cutaneous irritation or stimulation may also give rise to this condition.

Treatment.—The cases in which treatment is usually demanded are women with superfluous facial hair-growth.

Superfluous hair may be temporarily removed by *shaving*, *extraction*, or the use of *depilatories*, but these methods are not to be advised, as the recurring hair is coarser than the original growth. The sulphid of barium depilatory, recommended by Duhring, is one of the best:

℞. Barii sulphid..... ʒij
Pulv. zinci oxidi
Pulv. amyli.....āā ʒiij

This is made into a paste with a little water and spread on the hairy region for ten to fifteen minutes. As soon as burning is experienced it should be removed and followed by a bland ointment. Such applications must be repeated every few days, according to the needs of the case.

The only satisfactory treatment of hirsuties, however, is by means of *electrolysis*. This consists in the insertion of a fine needle into each hair follicle, and then turning on an electric current to destroy the hair papilla. The operation is somewhat painful, but nearly always within the limit of toleration.

Stiff hairs alone are to be extirpated. The removal of downy or lanugo hairs is not to be attempted, as the result is likely to be unsatisfactory. The *operation* is performed in the following manner: A fine needle irido-platinum needle or a fine jeweler's broach), held firmly in a specially devised holder, is attached to the *negative* pole of a *galvanic* battery. The needle is gently inserted into the hair-follicle down to the papilla. The patient holds a sponge electrode (positive pole), and makes the current by bringing it in contact with the palm of the other hand. In ten or twenty seconds a frothing occurs at the mouth of the follicle. The current is then broken by the release of the positive electrode, and the needle is withdrawn. If the papilla has been destroyed, the hair will come out upon the slightest traction with a forceps. If it

remains firm, the operation must be repeated. A current of from one to two milliamperes is usually required.

A wheal-like elevation soon develops at the site of the operation, but disappears in the course of a few hours. Occasionally pustulation occurs.

To avoid *scarring*, attention should be paid to the following points:

(1) The use of a fine needle; (2) the avoidance of too prolonged a current; (3) the avoidance of too strong a current; (4) are not to operate at the same sitting upon hairs in too close proximity.

Hot water, calamin lotion, or a 1:1000 solution of corrosive sublimate, sopped on after the operation, lessens the inflammation and the tendency to suppuration and scarring. The X-rays have been employed for the removal of superfluous hair, but must be used with the greatest caution. (See chapter on X-rays.) Indeed, most specialists now refuse to use the X-rays in the treatment of hypertrichosis unless the hair growth is so pronounced as to constitute an actual deformity. The use of the X-rays in sufficient dosage to effect permanent removal of the hair, is apt to be followed by permanent atrophy and wrinkling of the skin, or by the development of enlarged blood vessels (telangiectasis).

FIG. 75.—ELECTROLYSIS NEEDLE-HOLDER. (*Duhring.*)

ELEPHANTIASIS

Derivation.—Ἐλέφας, an elephant.

Synonyms.—Elephantiasis arabum; pachydermia; elephant leg; Barbadoes leg.

Definition.—Elephantiasis is a chronic hypertrophic disease of the skin and subcutaneous tissue due to obstruction of the lymphatic channels, resulting in enormous enlargement and thickening of the part, with papillary outgrowth.

Symptoms.—The most frequent seats of elephantiasis are the leg and foot, although the penis, scrotum, clitoris, and other parts are at times involved.

The affection usually begins as an erysipelatous inflammation, accompanied by fever, lymphangitis, pain, swelling, and

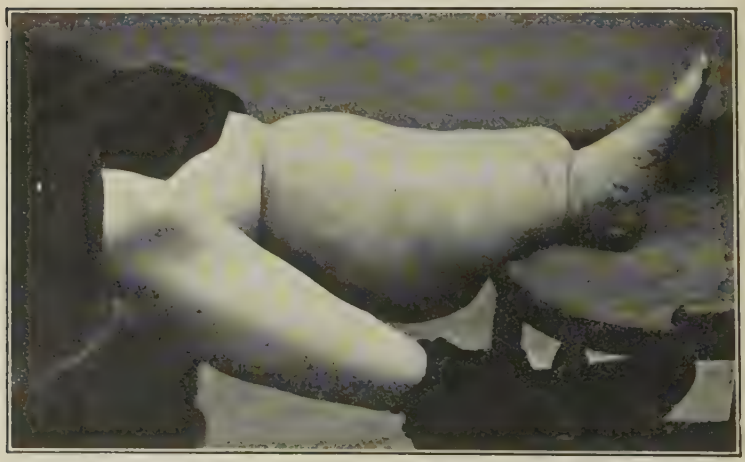


FIG. 76.—ELEPHANTIASIS.

heat, and followed by more or less permanent enlargement of the part. Such attacks recur at intervals of a few months, the affected area each time becoming larger. Finally a state of chronic hypertrophy is reached, the limb is greatly enlarged, the skin and subcutaneous tissue are enormously thickened, and the surface pigmented and covered with papillomatous growths and fissures. The maceration of the epidermis and the collection of decomposing sweat, sebum, and effete products give rise to an offensive odor.

FIG. 77.—ELEPHANTIASIS WITH PAPILLARY EXCRESCENCES.

There is, as a rule, no pain, although during the acute exacerbations it may be severe. The enormous weight of the hypertrophied part may make locomotion difficult or even impossible. The course of the affection is chronic.

Etiology.—The disease is most common in tropical countries, where it occurs chiefly in those subject to bad hygiene and poor food. It is due to inflammation and obstruction of the lymphatic vessels by the *filaria sanguinis hominis*. Sporadic cases may be due to an infectious lymphangitis from other causes, such as recurrent erysipelas, ulcers, eczema, cicatrices, tumors, etc.

Pathology.—There is a hyperplasia, participated in by the subcutaneous tissue and all of the layers of the skin. The chief change is in the subcutaneous tissue, which is enormously hypertrophied and traversed by irregular bundles of connective tissue. When the surface of skin is warty, the papillæ are greatly elongated. Both blood-vessels and lymphatics are enormously distended, the latter leading to dilated lymph-spaces. The neighboring lymphatic glands are enlarged. In advanced cases the muscles undergo fatty degeneration and the bones become enlarged.

Diagnosis.—The history of recurrent erysipelatous inflammation, with slowly progressing hypertrophy, is peculiar to elephantiasis. In advanced cases the appearances are unmistakable.

Prognosis.—In the beginning the process may at times be arrested. When the growth is far advanced, treatment accomplishes but little.

Treatment.—The erysipelatous attacks are to be treated by rest, hot or cold applications, and the internal administration of salines and quinin.

Good food and hygiene, tonics, and change of climate are important matters in endemic cases. Elastic compression by means of a well-applied rubber bandage is the most efficient

therapeutic measure. Green soap and the mercurial ointments may be rubbed into the skin.

Recurrent erysipelatoid inflammations of the leg with resultant hypertrophy, are often due to infections through fissures or abrasions. Daily immersion of the foot in a hot 1:4000 solution of permanganate of potassium will sometimes prevent the attacks. The X-rays are of value in promoting a resorption of the thickened tissues.

In advanced elephantiasis of the leg one may resort to stretching or partial exsection of the sciatic nerve, or digital or instrumental compression or even ligation of the femoral artery.

Elephantiasis of the scrotum is best treated by amputation.

DERMATOLYSIS

Synonyms.—Cutis pendula; fibroma pendulum; lax skin; "elastic skin."

Definition.—Dermatolysis is a rare disease, characterized by hypertrophy and laxity of the skin and subcutaneous tissues, with a tendency to hang in folds.

Some writers apply the name dermatolysis to an abnormal laxity and elasticity of the skin with hypertrophy, as seen in the so-called "elastic-skin men."

Symptoms.—The condition may be congenital or acquired, and may be slight in extent or involve large areas. The subcutaneous tissue and the skin, with its component structures, hair, glands, etc., are all hypertrophied. In marked cases the skin, which is often rugose and pigmented, hangs in huge folds like a garment.

There are no subjective symptoms except the inconvenience occasioned by the size and weight of the growth.

Etiology.—Obscure. The condition is allied to fibroma-molluscum.

Pathology.—There is hypertrophy of all the structures of the skin and subcutaneous tissue.

In the so-called "elastic skin," the elastic tissue is normal, but the connective-tissue fibers are converted into a myxomatous-looking tissue.

Treatment.—The mass is to be excised when its location and extent permit. There is no tendency to recurrence.

ONYCHAUXIS

Derivation.—"Ονυξ, a nail; αὐξέειν, to grow.

Synonym.—Hypertrophy of the nail.

Definition.—Onychauxis is an increase in the size of the nail, either in length breadth, or thickness.

Symptoms.—Hypertrophy of the nail may be congenital or acquired, idiopathic or symptomatic, as in ichthyosis or syphilis. The nail may be merely enlarged or there may be coincident structural changes. Thus, the nail may become roughened, furrowed, and opaque, and have a yellowish, brownish, or blackish hue.

Lateral growth may result in inflammation of the surrounding tissues (*paronychia*), or the matrix itself may undergo inflammation (*onychia*).

Onychogryphosis is a term used to denote nails which have become curved and claw-like.

Etiology.—In acquired cases the condition is usually a manifestation of psoriasis, ichthyosis, leprosy, syphilis, etc.

Treatment.—The excessive nail tissue should be removed with a knife or scissors. Symptomatic cases should be treated in connection with the associated disease.

In paronychia the imbedded nail edge should be trimmed off and cotton packed in between the nail and the soft parts.

CLASS VI.—ATROPHIÆ—ATROPHIES

ALBINISMUS

Derivation.—Albus, white.

Synonym.—Albinism.

Definition.—Albinism is a congenital affection characterized by partial or complete absence of pigment in the skin, hair and eyes.

Symptoms.—In complete albinism the skin is preternaturally white, and the entire hair of the body is fine, silky, and of a whitish or yellowish-white color. The irides have a p nkish or pale bluish hue, and the pupils, owing to the lack of pigment in the choroid, show the orange-red color of the fundus. Photophobia, nystagmus, and nictitation occur as a result of absence of the protective pigment, and are of considerable annoyance to the patient.

Partial albinism occurs chiefly in negroes, where it manifests itself as variously sized and shaped depigmented, milky-white patches. The hairs upon such patches are also white. The term "piebald" is commonly applied to such individuals. "Albinoes" not infrequently exhibit physical and mental inferiority.

Etiology.—Unknown. Heredity seems to be a factor, inasmuch as several children in the same family are usually affected.

Pathology.—The skin is normal, with the exception that there is absence of pigment in the rete mucosum.

Treatment.—Treatment is entirely without avail.

VITILIGO

Derivation.—*Vitium*, a blemish.

Synonyms.—Leukoderma; acquired piebald skin.

Definition.—Vitiligo is an acquired pigmentary affection characterized by variously sized and shaped whitish patches with hyperpigmented borders.

Symptoms.—The condition manifests itself as rounded, oval or irregular milk-white or pinkish-white spots, which tend slowly or rapidly to spread, at times coalescing and producing large patches. These are smooth, soft, sharply defined,

FIG. 78.—VITILIGO IN A COLORED WOMAN.

and neither elevated nor depressed. The surrounding skin shows increased pigmentation, being usually brownish-yellow in color. The hairs upon the affected areas may or may not turn white.

The disease progresses slowly, becoming conspicuous only after a duration of years. In rare cases the affection may involve the greater part, or indeed the whole of the body. Vitiligo lasts throughout life.

The eruption may occur upon any portion of the cutaneous surface, although it is prone to elect the backs of the hands, neck, and the trunk.

There are no subjective symptoms. Disfigurement is the sole inconvenience. The affection is frequent in negroes, in whom it produces a most striking appearance.

Etiology.—Vitiligo occurs in adult life. In many cases there is no ascertainable cause. It is due, in all probability, to a disturbance of innervation. It is occasionally associated with morphea, alopecia areata, and exophthalmic goiter. In two patients I have seen Vitiligo begin synchronously with the onset of Grave's disease.

Pathology.—The skin is normal, with the exception of an unequal distribution of coloring matter. In the white spots there is total absence of pigment, whereas in the darkened borders the pigment is abnormally increased.

Diagnosis.—Vitiligo is to be distinguished from chloasma, tinea versicolor, morphea, and leprosy.

Vitiligo	Chloasma	Tinea Versicolor	Morphea	Leprosy
Patches are smooth and white with hyperpigmented borders.	Patches are brownish-yellow; no white spots.	Patches are brownish-yellow; furfuraceous scaling; fungus.	Structural changes in the corium.	May be whitish or yellowish but are anesthetic.

Prognosis.—In rare cases spontaneous recovery has been observed, but the affection may be said to be practically incurable.

Treatment.—From what has been said, it is evident that the treatment is highly unsatisfactory. Duhring advises the

long-continued administration of small doses of arsenic. I have been in the habit of prescribing:

℞. Acidi Arseniosi..... gr. 1/40
Gland. Suprarenal desic..... gr. i-ii

To be taken after each meal, in courses, three weeks out of four.

Locally, lotions of corrosive sublimate or acetic acid, as recommended for chloasma, may be applied to the pigmented borders with a view of dissipating the color and lessening the contrast.

ATROPHIA CUTIS

Derivation.—'A, privitive, τροφή, nutrition.

Synonyms.—Atrophy of the skin; atrophoderma.

Definition.—Atrophy of the skin is a condition characterized either by diminution in the bulk of the skin or degeneration of its component structures.

Symptoms.—Under the general heading of cutaneous atrophy several varieties are to be considered.

Atrophia Senilis (*Senile Atrophy*)

This term is applied to the degenerative cutaneous changes that occur in old age. The skin is thin, dry, shriveled, pigmented in spots, and covered with branny scales. The hair, and the sweat and sebaceous glands may disappear or the last named may undergo degeneration.

Atrophoderma Neuriticum (*Glossy Skin*)

Glossy skin is a rare atrophic affection, occurring usually upon the fingers, and characterized by a smooth, tense, pinkish, shining appearance, with loss of hair and incurvation of the nails. It is accompanied and preceded by considerable burning pain, and is due to injury or disease of a nerve. The treatment consists of protection from cold and traumatism, the condition tending itself to spontaneous recovery.

General Idiopathic Atrophy

This is an extremely rare affection involving large areas of skin, such as an entire limb. The skin is thinned, dry, and scaly, and exhibits a marbling of purplish or reddish-brown spots or streaks, often ending in pigmentation. The disease is slowly progressive.

Fig. 79.—Atrophy of Skin.—(*After Van Harlingen.*)

Striæ et Maculæ Atrophicæ (*Atrophic Lines and Spots*)

This form of atrophy may be idiopathic or symptomatic. In the idiopathic variety there develop without known cause erythematous spots and lines, which, after a variable duration, terminate in atrophy. When fully developed, the atrophic areas are from one to two inches in length, and are white, glistening, depressed, perceptibly thinned and of a whitish or bluish-gray color. They are usually seen about the buttocks, trochanters, pelvis, and thighs. The symptomatic variety is exemplified in the so-called *lineæ albicantes* of pregnancy. The fibers of connective tissue are separated and the papillæ effaced.

XERODERMA PIGMENTOSUM

Derivation.—Ξηρὸς, dry, δέρμα, skin.

Synonyms.—Atrophoderma pigmentosum; angioma pigmentosum et atrophicum; Kaposi's disease.

Definition.—Xeroderma pigmentosum is a rare congenital disease characterized successively by pigmentation, telangiectasis, cutaneous atrophy, and malignant papillary tumors, ending fatally.

Symptoms.—The disease usually begins in the first or second year of life and is slowly progressive. In the beginning, freckle-like pigmentations appear upon the face, neck, and backs of hands. Later, atrophic depressions, telangiectases, and diffuse atrophy made their appearance. In the course of a few years warty growths occur upon the pigmented spots and develop into epitheliomatous, sarcomatous, or angiomatous tumors. The disease terminates fatally after a lapse of some years.

Etiology.—Congenital predisposition is the only definitely known cause. In a number of cases the parents give a history of consanguineous marriage. Several children in the same family are usually affected. These children exhibit a hypersusceptibility to the actinic rays of light. Indeed, to them the sun acts almost as a huge X-ray tube. The cutaneous manifestations, indeed, resemble closely chronic X-ray effects.

Pathology.—Crocker believes the disease to be "an atrophic degeneration of the skin, dependent upon a primary neurosis to which there is a congenital predisposition."

Prognosis.—Nearly all cases terminate fatally.

Treatment.—Local application may be employed to ameliorate the condition of the skin, and when advisable the growths may be removed surgically, or otherwise destroyed. In a severe case I used radium on the growths with excellent results.

Soothing lotions containing large amounts of powdered calamine powder are advisable; the reddish color of the

powder tends to obstruct the entrance of the chemical rays of light.

SCLEREMA NEONATORUM

Derivation.—Σχληρὸς, hard; νέσν, lately.

Synonyms.—Scleroderma neonatorum; sclerema of the new-born.

Definition.—Sclerema neonatorum is a disease occurring at or shortly after birth, characterized by induration of the skin and subcutaneous tissue, and local and general circulatory disturbance.

Symptoms.—The disease begins usually in the lower extremities and spreads upward, involving the trunk, arms, and face. The skin is reddish, purplish or mottled, hard, rigid, and cold. The rigidity, which resembles "rigor mortis," renders motion of the joints almost impossible. Respiration is feeble, the pulse weak, and the temperature subnormal. The infant is unable to take nourishment, and death results in a few days or weeks. In very rare instances recovery may spontaneously take place.

Etiology.—Obscure. Occurs most frequently in premature children. The immediate cause is supposed to be a faulty capillary circulation due to pneumonia, feeble vitality, etc.

Treatment.—The treatment consists of: (1) Keeping up the body temperature (by means of an incubator, wrapping in wool, or hot baths); (2) maintaining nutrition (by feeding through a tube, etc.); (3) centripetal friction with warm oils.

SCLERODERMA

Derivation.—Σχληρὸς, hard; δέρμα, the skin.

Synonyms.—Hidebound disease; sclerema adultorum; sclériasis; dermatosclerosis.

Definition.—Scleroderma is a disease characterized by circumscribed or diffuse induration, rigidity and stiffening of the integument, terminating in atrophy.

Symptoms.—The disease is exceedingly rare. The skin manifestations may be preceded or accompanied by disturbance of cutaneous sensibility, such as pain, prickling, tingling, formication, etc., and by muscular cramps. The disease begins as a pronounced stiffening or hardening of the skin, which

FIG. 80.—SCLERODERMA.

progresses gradually, or more rarely rapidly, until marked induration results. In some cases an edematous stage may precede the induration. When the disease is typically developed, the skin is thickened, tense, hard, and immovable, acquiring in an advanced stage the feel of frozen skin, leather, or even wood. It is bound down to the structures beneath

and is incapable of being pinched up. There is usually pigmentation of a yellowish or brownish hue.

After a variable duration the stage of induration passes on to the stage of atrophy. The skin then becomes thinned, shiny, and tensely stretched over the bony prominences. The phalangeal joints are apt to become ankylosed in a semi-flexed position (sclerodactylia).

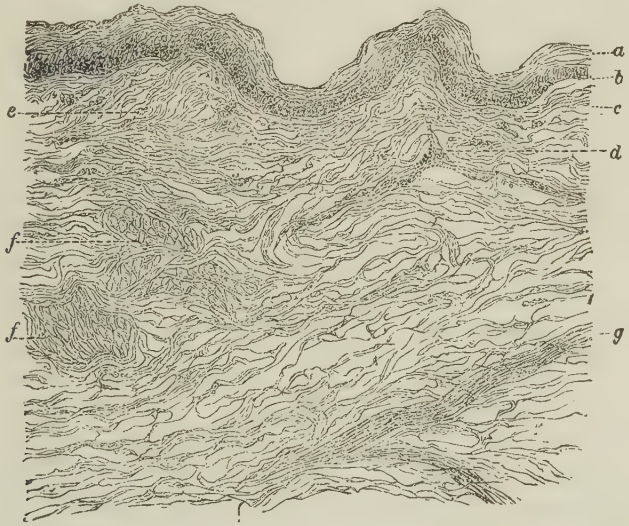


FIG. 81.—SCLERODERMA.

a. Epidermis. *b*. Rete Malpighii, greatly pigmented. *c*. Cutis, very vascular. *d*. Pigment stripe from an obliterated vessel. *e*. Masses of pigment. *f*, *f*. Sections of muscular fibers. *g*. Longitudinal bands of the same.

The course of the disease is chronic, although in rare cases it may be acute. The general health is, as a rule, not compromised. The parts most affected are the neck, face, forearms, chest, and lower extremities.

Etiology.—Scleroderma occurs chiefly in early adult and middle age, and is far more common in women than in men. Exposure to cold and wet, rheumatism, and nerve shocks

have been causal in many cases. The disease is brought about through the implication of the nervous or endocrine system.

Pathology.—The chief changes noted in scleroderma are: an increase and condensation of the connective tissue in the corium and subcutaneous tissue, an increase in the elastic tissue, and diminution in the caliber of the blood-vessels. Later there is atrophy of the subcutaneous tissue.

Diagnosis.—The peculiar immobile, indurated, tightly adherent condition of the skin is highly characteristic of the disease. Morphea is looked upon by most writers as a circumscribed form of scleroderma.

Prognosis.—Unfavorable; a few cases undergo spontaneous involution, but the majority persist throughout life.

Treatment.—Internal treatment is to be based upon general principles, thyroid extract, arsenic, quinin, and cod-liver oil being frequently employed. Locally, baths, massage with oily substances, and electricity may be employed with benefit. The best form of the latter is galvanic ionization.

MORPHEA

Derivation.—Μορφή, a blotch.

Synonyms.—Circumscribed scleroderma; keloid of Addison.

Definition.—Morphea is a disease characterized by rounded or oval, well-defined, firm, coin-sized or larger patches of a whitish-yellow or pinkish color surrounded by a violaceous zone.

Symptoms.—Discrete, rounded, oval or elongated patches varying in size from a pea to the palm of the hand, develop slowly upon the face, neck, chest, abdomen, or extremities. When fully formed they are, as a rule, firm to the touch, but not hard. The color is pale pinkish, yellowish, violaceous, or whitish. The surface is often shiny with a polished ivory appearance. Around the patches is a zone of a lilac or viola-

ceous hue, due to dilated blood-vessels, or there may be yellowish or brownish pigmentation.

The course is variable, but as a rule chronic. The patches may undergo involution, or may terminate in atrophy, leaving the integument whitish, thinned, shriveled, and bound to the tissues beneath.

Etiology.—As in scleroderma, the nervous system is probably the seat of the disorder. I have seen several cases in which local injury, such as a muscle bruise, appeared to be followed by the appearance of a patch.

The disease occurs more frequently in women than in men. Many writers look upon morphea as a circumscribed scleroderma.

Pathology.—Microscopically, there is seen an exudation around the sweat and sebaceous glands and blood-vessels, lessening the caliber of the latter. An atrophy or flattening of the papilla with an increase and condensation of the connective tissue take place, later resulting in atrophy.

Diagnosis.—There should not be much difficulty in distinguishing the patches of morphea from those of vitiligo and nerve-leprosy. The patches of vitiligo show no structural changes; neither do those of nerve-leprosy, which are, in addition, anesthetic.

Prognosis.—Guarded. Patches may disappear spontaneously, but are more likely to persist indefinitely.

Treatment.—The treatment is practically that of scleroderma—namely, tonics, massage, and electricity.

CANITIES

Derivation.—*Canus*, white.

Synonyms.—Grayness of the hair; whitening of the hair.

Definition.—Canities is an atrophic pigmentary affection of the hair characterized by circumscribed or general graying or whitening.

Symptoms.—When occurring in advanced years the condition is to be looked upon as physiologic (*canities senilis*). Not infrequently it occurs in early adult life (*canities prematura*). It may involve the entire hair of the head or only small patches, forming tufts of gray or white hair. The loss of pigment, as a rule, takes place slowly; it must be admitted, however, that in rare cases it is possible for hair to "turn white in a single night." The condition persists throughout life.

Etiology.—Physiologic whitening of the hair is due to senility. The premature forms may be due to heredity, psychic shocks (fright, fear, etc.), functional and organic nervous diseases.

Pathology.—The microscope shows partial or complete loss of pigment in the hair substance. Sudden graying is supposed to be due to the sudden appearance of air-bubbles in the shafts of the hair.

Treatment.—Internal remedies are of little or no value. The whitened hair may be dyed with:

℞.	Argent. nitrat	gr. xv
	Ammon. carb	gr. xxij
	Ung. adipis	ʒj

For black shade (Kaposi).

℞.	Acidi pyrogall	gr. xv
	Aq. cologn	ʒss
	Aq. rosæ	f ʒiss

For brown shade (Kaposi).

ALOPECIA

Derivation.—'Αλώπηξ, a fox.

Synonyms.—Baldness; calvities.

Definition.—Alopecia is a physiologic or pathologic deficiency or loss of hair, either partial or complete. The forms of alopecia may be classified as follows:

I. Congenital alopecia.
II. Senile alopecia.
III. Premature alopecia.
- (*a*) Idiopathic.
  - Hereditary predisposition.
    - Seborrhea.
    - Eczema seborrhœicum.
    - Psoriasis.
  - (1) Local diseases.
    - Lupus erythematosus
    - Syphilodermata.
    - Folliculitis.
    - Tinea tonsurans.
    - Tinea favosa, etc.
- (*b*) Symptomatic.
  - Acute.
    - Typhoid fever.
    - Influenza.
    - Variola.
    - Scarlatina.
    - Pregnancy, etc.
    - Erysipelas.
  - (2) General diseases.
    - Chronic.
      - Syphilis.
      - Leprosy.
      - Myxedema.
      - Neurasthenia.
      - Chronic intoxications.
      - Anemia.
      - Diabetes.
      - Cancer.
      - Uric acid diathesis.

Congenital Alopecia.—This commonly manifests itself either as a scanty growth, a development only in certain localities, or as a retarded appearance of the hair. In rare cases there may be complete absence of the hair, due to arrested development of the follicles. In such cases hereditary predisposition is usually present, and there is apt to be, in addition, delayed or defective dentition.

Senile Alopecia.—As the name indicates, this form of baldness is observed in the aged. With the atrophic skin changes that accompany senility there takes place a gradual thinning of the hair, beginning upon the vertex of the scalp, the frontal and the temporal regions, and slowly leading to a more or less complete baldness of the calvarium.

Premature Alopecia.—The form of alopecia occurs in individuals chiefly between the ages of twenty and thirty-five. It may be either idiopathic or symptomatic.

In the *idiopathic* variety the scalp presents no abnormal condition. At first only a few hairs fall from time to time, being replaced by a shorter and finer growth. Later these fall and are followed by still finer hairs. In this manner the entire hair of the scalp may be lost. The affection occurs in both sexes, although much less frequently in women than in men. Heredity appears to be a strong predisposing factor.

The *symptomatic* form results from various local and general diseases. Rapid falling of the hair (*defluvium capillorum*) follows acute diseases, such as typhoid fever, smallpox, influenza, etc. Full regeneration of the hair follows the restoration to health.

Rapid and extensive loss of hair occurs with frequency in the early stages of syphilis. A prolific cause of premature alopecia is chronic dry seborrhea (*dandruff*) of the scalp. This affection, after a long duration, leads to atrophy of the hair-follicles.

Other local diseases, such as lupus erythematosus, psoriasis, eczema, tinea tonsurans, tinea favosa, etc., may all produce more or less marked alopecia.

Prognosis.—In congenital and senile alopecia treatment is of little or no avail. In idiopathic premature alopecia the prognosis should be extremely guarded. In symptomatic alopecia, particularly when there is a removable cause and no hereditary predisposition, the prognosis may be considered less unfavorable. This is more particularly true in the alopecia of women.

Treatment.—Internal treatment is to be employed whenever the condition depends upon a systemic cause. Such tonics as iron, strychnin, phosphorus, arsenic, and cod-liver oil may often be prescribed with advantage.

Local treatment is of great importance, particularly when dandruff is present. It consists of the proper cleansing of the scalp and the stimulation of the sebaceous glands to healthy action.

The tincture of green soap makes an admirable shampoo for the removal of epithelial and sebaceous debris. This may be advantageously followed by such a hair wash as:

℞. Resorcini ..... ℥ij
Acidi salicylici ..... gr. xxx
Ol. ricini ..... f ℥ss-f ℥iss
Spts. vini rect ..... q.s.ad. ..... f ℥vj
Ol. bergamot ..... f ℥j M.

When greater stimulation is desired, the following should be used:

℞. Hydrarg. bichlorid ..... gr. xij
Betanaphtol ..... gr. xx
Chloral hydratis ..... ℥i
Ol. ricini ..... f ℥j
Spts. vini rect ..... q.s.ad ..... f ℥vj
Ol. bergamot ..... ♏xxx M.
Sig.—Hair wash.

When the scalp is accessible, ointments may be used.

℞. Sulph. præcip ..... gr. xxx-℥j
Petrolat ..... ℥ss
Ol. bergamot ..... ♏xxx
Sig.—Rub in in small quantity once or twice a week.

Certain types of lamps that give off rich violet and ultra-violet rays are useful, particularly in women, in whom the prognosis is always more favorable than in the male sex. A large mercury vapor quartz lamp is extensively used for this purpose.

ALOPECIA AREATA

Derivation.—Ἀλώπηξ, fox.

Synonyms.—Alopecia circumscripta; area Celsi.

Definition.—Alopecia areata is a disease of the hairy system characterized by the more or less sudden occurrence of round or oval, circumscribed, bald patches, in rare cases coalescing and producing total baldness.

Symptoms.—The disease is usually limited to the scalp, but may affect the beard, eyebrows, eyelashes, and, in rare instances, the entire cutaneous surface.

As a rule, one, two or more patches are present upon the scalp. They are circumscribed and rounded, and vary in size from a coin to the palm of the hand. The skin is smooth, soft, of a dead-white color, and totally devoid of hair. Occasion-

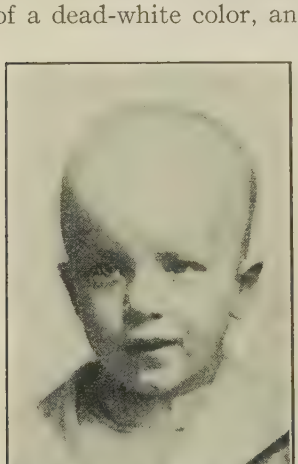


FIG. 82.—ALOPECIA AREATA TOTALIS.

FIG. 83.—SAME CHILD, FOUR MONTHS AFTER INSTITUTION OF TREATMENT.

ally the patches are pinkish as a result of slight hyperemia. The follicular openings are contracted and less prominent than in the healthy scalp. To the feel the skin is thin, soft and pliable. In the beginning the patches are level or slightly elevated, whilst later they are sometimes slightly depressed. The course of the disease is extremely variable. In some cases the bald patches develop suddenly in the course of a few hours. In other cases the hair loss is gradual, extending over a period

of a few days or weeks. The areas then spread by peripheral extension until they reach a certain size, when they remain stationary.

FIG. 84.—SAME CHILD, TEN MONTHS AFTER INSTITUTION OF TREATMENT.

The duration of the disease varies greatly. Recovery seldom occurs in less than a few months, while many cases last

several years. In young individuals the hair usually returns sooner or later. In adults the baldness may persist and prove refractory to all treatment.

When regrowth occurs, the patch is first covered by fine, downy, whitish hairs, which are either shed or later converted into coarse and pigmented hairs.

As a rule, there are no subjective symptoms.

Etiology.—The disease is said to have its origin in a functional nerve disturbance, interfering with the innervation of the hair-follicles. It has been observed to follow psychic shocks (fright, etc.), injuries to the scalp, reflex dental irritation, and section of nerves. Carroll Wright has recently brought forth strong evidence against this point of view.

French writers insist upon the parasitic nature of alopecia areata, and cite epidemics of this disease in support of its contagious character. This is only true of rare types.

It is probable that there are two varieties, the one trophoneurotic or more probably vascular constituting the larger group, and the other parasitic, the latter having certain special characteristics.

Pathology.—The affected hairs show an atrophy of the shaft and the bulb. The skin changes are at first mildly inflammatory, later atrophic.

Diagnosis.—Alopecia areata is chiefly apt to be confounded with tinea tonsurans.

Alopecia Areata	Ringworm
1. Rapid onset.	1. Slow, insidious onset.
2. Patches are:	2. Patches are:
(*a*) Totally devoid of hair.	(*a*) Covered with broken-off stumps.
(*b*) Pale or whitish in color.	(*b*) More or less reddened.
(*c*) Smooth or soft.	(*c*) Rough and scaly.
(*d*) Follicles contracted.	(*d*) Follicles prominent; "goose flesh" appearance.
3. Absence of fungus.	3. Ringworm fungus present.
4. Common in adolescence and adult life.	4. Occurs almost exclusively in childhood.

Prognosis.—In children recovery usually takes place. In young adults the prognosis is guardedly favorable, while in advanced adults it is unfavorable. The duration of the disease is uncertain and relapses are not uncommon.

Treatment.—The internal treatment consists in the use of such tonics as iron, quinin, strychnin, cod-liver oil, phosphorus, and arsenic. Duhring considers arsenic to be "especially serviceable."

The local treatment has for its object the stimulation of the scalp and the consequent increased blood-supply to the follicles. Among the many medicaments which have been advised are alcohol, cantharides, capsicum, the essential oils, turpentine, carbolic acid, ammonia, sulphur, iodin, mercury, betanaphtol, etc. I have obtained the best result from the use of a neorobin ointment.

℞. Neorobin ..... gr. iii
Vaselini ..... ʒi

Sig.—Rub in until the scalp becomes tender; then intermit treatment for a few days.

Lotions such as the following are employed by some clinicians:

℞. Tinct. cantharidis,
Tinct. capsici ..... āā f ʒiv
Ol. ricini ..... f ʒij
Aq. cologn ..... f ʒj M.

Sig.—Brush in vigorously once or twice a day.

The following ointment is cleaner but less efficacious than neorobin.

℞. Betanaphtol ..... ʒi
Petrolat ..... ʒi
Ol. bergamot ..... ♏xxx M.

Sig.—Rub in thoroughly twice a day.

The swabbing of the bald areas once or twice a week with 50 per cent, trikresol or with the following combination has been commended by some writers.

℞. Acidi carbolici,
Spts. vini recti.....āā ℥ss

The faradic current applied with a wire-brush electrode is often useful. Of the physical treatments, however, the actinic rays of light applied with an appropriate apparatus—the mercury vapor quartz lamp—is the best.

ATROPHIA PILORUM PROPRIA

Synonym.—Atrophy of the hair.

Definition.—An idiopathic or symptomatic atrophy of the hair, characterized by diminution of size, dryness, brittleness, and tendency to splitting.

Symptoms.—Symptomatic atrophy of the hair occurs in seborrhea, ringworm, phthisis, syphilis, the various fevers, etc.

The idiopathic form is exemplified in the following affections:

Fragilitas Crinium

This condition is marked by a brittle condition of the hair shaft. Commonly the caliber of the hair varies at different

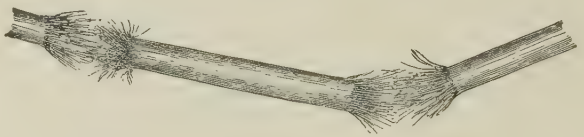


Fig. 85.—Trichorrhexis Nodosa.—(*After Crocker.*)

points, due to the presence of uneven and irregular formations. There is, in addition, tendency to splitting of the hair into two or more filaments.

Trichorrhexis Nodosa

This condition is most frequently observed in the beard and mustache. It is characterized by spindle-shaped, bulbous, translucent swellings along the hair shaft. Rupture takes

place at the points of distention, the hairs frequently breaking off and leaving brush-like stumps. The condition is probably parasitic in nature.

Treatment.—The treatment is not very satisfactory. Repeated cutting or shaving of the hair is sometimes followed by improvement. I would advise the use of

℞. Chrysarobini..... gr. x-xx
Vaselini..... ʒj
Ol. rosæ..... ♏j

ATROPHIA UNGUIS

Synonyms.—Onychatrophia; atrophy of the nail.

Definition.—A congenital or acquired condition, characterized by decreased size or thickness of the nail, softening, splitting, crumbling, and discoloration.

Symptoms.—In congenital atrophy the nails may be absent, defective, or distorted. In acquired atrophy, which is more common, the nail may be thin, opaque, narrow, friable, furrowed, laminated, and otherwise distorted. Acquired atrophy results from wasting general diseases, syphilis, and nerve injuries, and from such local disorders as psoriasis and eczema. When the nail is invaded by the fungus of ringworm or favus it is termed *onychomycosis.*

Treatment.—The treatment varies according to the cause. Syphilis and other constitutional diseases must receive their appropriate treatment. In other cases trimming and scraping of the nails and friction with green soap are often of value. In onychomycosis mercurial preparations are of particular efficiency.

CLASS VII.—NEOPLASMATA—NEW GROWTHS

KELOID

Derivation.—Χηλή, a claw.

Synonyms.—Cheloid; keloid of Alibert.

Definition.—Keloid is a connective-tissue new growth appearing as variously sized and shaped, smooth, firm, reddish, cicatriform elevations.

Symptoms.—The disease usually begins as a small pea-sized nodule, which, during the course of years, slowly increases in size. The shape is variable, being at times ovalish, cylin-

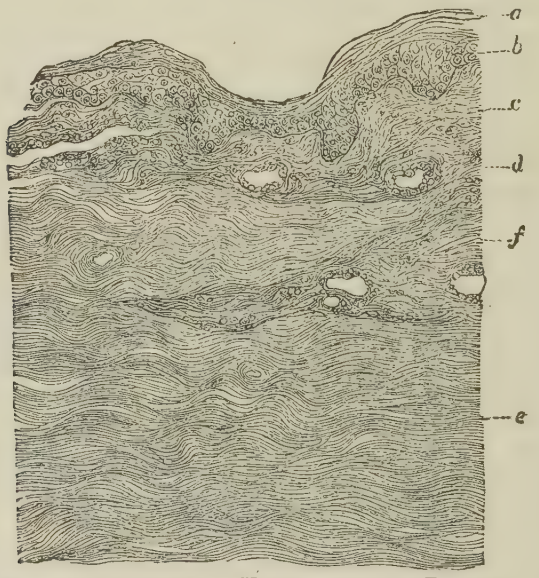


FIG. 86.—SECTION OF A KELOID FROM THE FOREHEAD.

a. Epidermis. *b*. Rete Malpighii. *c*. Tissue of the cutis. *d*. Remnant of the cutis. *e*. Tense fibrous keloid tissue. *f*. Cell infiltration around the vessels.

drical, crab-shaped, or streaked. The growth is well defined, firmly implanted in the skin, smooth, firm, and dense, with a shining pinkish or reddish color. Pain and tenderness are occasionally experienced.

The favorite situation is upon the trunk, particularly over the sternum.

Etiology.—*Spontaneous keloid*, of that form developing upon normal skin, is obscure as to origin. *Cicatrical* or *false keloid* springs up at the site of wounds, such as burns, cuts, leech bits, acne, and variola lesions, etc.

Keloid is much more frequent in the colored than in the white race.

Pathology.—Keloid is made up of dense bundles of white fibrous tissue, running parallel with the axis of the tumor. The growth has its seat in the corium.

Prognosis.—Spontaneous involution occurs occasionally, although the growth is apt to persist throughout life.

Treatment.—Usually unsatisfactory. Excision is nearly always followed by recurrence. Multiple scarifications and electrolysis have been advised.

Benefit sometimes follows the long-continued application of lead or mercurial plaster.

The X-rays have effected cures in a number of cases. In some cases excision followed by immediate raying is of curative value.

FIBROMA

Derivation.—*Fibra*, a fiber.

Synonyms.—Molluscum fibrosum; fibroma molluscum; molluscum pendulum.

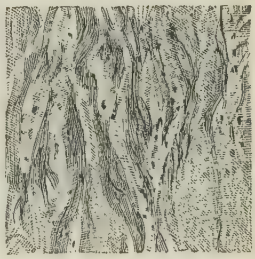


Fig. 87.—Fibroma.

Definition.—Fibroma is a connective-tissue growth situated in the corium and subcutaneous tissue, characterized by sessile or pedunculated, soft or firm, rounded, painless tumors, varying in size from a split pea to an egg, or larger.

Symptoms.—Fibromata occur either singly or, more commonly, in numbers, when they are distributed over the greater part of the body. They vary in size from a pea to a cherry or even a pear. They have a uniformly soft consistence and are frequently pedunculated. The overlying skin may be

normal, pinkish or reddish, stretched, hypertrophied, or atrophied. The tumors are painless. Pendulous growths of great size occasionally ulcerate.

A not uncommon form of hard fibroma of the skin begins as pea sized roughened dull red nodules imbedded in the skin and slightly elevated.

Fig. 88.—Fibroma. (Courtesy of Dr. Addison Hewson. From Schamberg's "Skin Diseases and Eruptive Fevers" W. B. Saunders Co., Publishers.)

Etiology.—Obscure. Hereditary predisposition is the only known cause. Endocrine disturbances may possibly be a factor.

Pathology.—Recent tumors are made up of gelatinous young connective tissue; old tumors of dense, closely packed, fibrous tissue. The growths are situated in the corium and subcutaneous tissue.

Diagnosis.—Molluscum fibrosum is to be distinguished from lipoma and neuroma. Lipomata are lobulated and softer, and neuromata are accompanied by pain.

Prognosis.—The tumors tend to increase in size and number, and persist throughout life.

Treatment.—Pedunculated tumors may be removed by means of a ligature or galvano-cautery. Others, if not too numerous, may be excised with the knife.

NEUROMA

Derivation.—Νεῦρον, a nerve.

Synonym.—Nerve tumor.

Definition.—Neuroma of the skin is an affection characterized by one or more pinhead- to hazel-nut-sized tubercles, made up of connective tissue and nerve-fibers, and accompanied by severe paroxysmal pain.

Symptoms.—The condition is exceedingly rare. The nodules are purplish or pinkish, elastic and immovable, both painful and tender on pressure. The accompanying paroxysmal pain is often excruciating.

Pathology.—The growths are really neuro-fibromata, consisting of a mixture of connective tissue and medullated and non-medullated nerve-fibers. The tumors are seated in the corium.

Treatment.—Excision of the nerve-trunk leading to the growths has been twice tried, resulting in one case in temporary and in the other case in permanent amelioration.

XANTHOMA

Derivation.—Ξανθός, yellow.

Synonyms.—Xanthelasma; vitiligoidea.

Definition.—Xanthoma is a connective-tissue new growth, characterized by circumscribed flat or slightly raised yellowish patches or tubercles, commonly situated on the eyelids.

Symptoms.—There are two varieties—the macular (*xanthoma planum*) and the tubercular (*xanthoma tuberosum*).

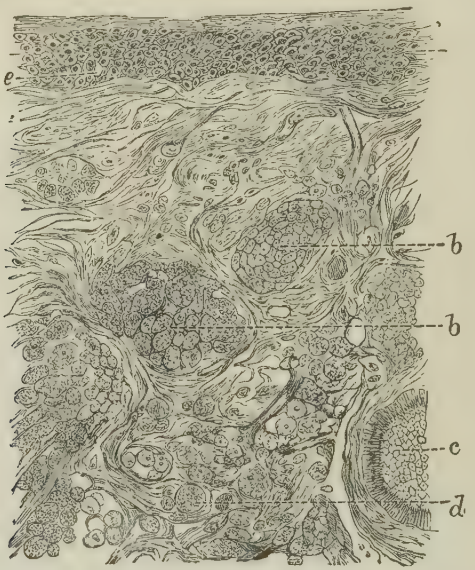


Fig. 89.—Large Xanthoma Plaque from Eyelid.—(*After Crocker.*)
a. Rete Malpighii, many of the cells of which are undergoing vacuolation as at *e*. *b, b*. Cylindrical masses of xanthoma cells formed around a vessel. *c*. Hair-follicle. *d*. Multi-nucleated granular xanthoma giant cell.

Pollitzer believes these two conditions to be distinct and separate diseases.

Xanthoma Planum

Occurs usually upon the upper eyelids as pea-sized or larger, soft, smooth, flat or slightly elevated, circumscribed patches of a "chamois leather" color.

Xanthoma Tuberosum

Occurs upon the neck, body, or extremities as pinhead- to cherry-sized or larger, rounded, raised, yellowish patches or tubercles.

The two forms occasionally coexist. When the lesions are numerous and wide-spread the designation *Xanthoma multiplex* is employed.

Fig. 90.—Xanthoma Tuberosum.

A form of xanthoma known as *Xanthoma diabeticorum* occurs in rare cases in individuals suffering from glycosuria. The eruption usually disappears as the underlying condition improves.

Etiology.—Xanthoma occurs usually in middle life, and is more common in women than in men. There is often an antecedent history of jaundice, particularly in the tuberous variety. Cholesterol is usually found in the blood in excess, in xanthoma tuberosum.

Pathology.—Pollitzer's investigations would seem to prove that the chief pathologic process in xanthoma planum is a fatty degeneration of embryonically misplaced muscle fibers in the skin. In xanthoma tuberosum, according to the studies of Pollitzer and Wile, there is a deposit in the skin of cholesterol from the blood current.

Microscopic sections show a connective-tissue new growth, in the interstices of which are nests of large epithelioid, fatty degenerated and infiltrated cells.

Prognosis.—After progressing to a certain size the lesions remain stationary for an indefinite period.

Treatment.—Whenever desired the growths may be removed by means of the knife, galvano-cautery, or electrolysis. Xanthoma of the eyelids may at times be cured by judicious applications of trichloracetic acid.

MYOMA

Derivation.—Μυών, muscle.

Synonyms.—Myoma cutis; dermatomyoma; leiomyoma cutis.

Definition.—Myoma cutis is a rare affection, characterized by single, or more rarely multiple, smooth, pale red, pea- to bean-sized tumors, made up of smooth muscle fibers.

Fig. 91.—Myoma.

Symptoms.—Simple myoma (leiomyoma) is rare and appears as small, pea-sized, pale red elastic growth, occurring most frequently upon the upper extremities.

Dartoic myoma (more common) appears usually as a solitary hazel-nut to orange-sized, sessile or pedunculated tumor, occurring upon the breasts, scrotum, or labia majora.

Pathology.—The tumors consist chiefly of unstriped muscular fibers, but may contain fibrous connective tissue (*fibro-*

myoma), vascular tissue (*angiomyoma, myoma telangiectodes*), or lymphatic tissue (*lymphangiomyoma*).

Treatment.—When practicable, excision may be advised.

NÆVUS VASCULOSUS

Synonyms.—Nævus sanguineus; angioma.

Definition.—Vascular nevi are congenital formations composed chiefly of blood-vessels, having their seats in the skin and subcutaneous tissue.

Symptoms.—There are two varieties:

1. *Port-wine Mark, Nævus Flammeus, Angioma Simplex.*—Flat, non-elevated, smooth patches of a reddish or purplish color.

2. *Angioma Cavernosum, Nævus Tuberosus.*—Circumscribed, elevated, erectile, pulsating, purplish tumors, with a rugose or smooth surface.

Both varieties are seen most frequently upon the head and face.

Pathology.—In the flat or simple angioma there is a new growth, involving chiefly the capillaries of the corium. In angioma cavernosum there is a hypertrophy of the blood-vessels (both arteries and veins), of the corium, and of the subcutaneous tissue, with a variable amount of connective-tissue overgrowth.

Treatment.—Pinhead-sized nevi are best treated by electrolysis, or the thermo-cautery. Elevated angiomata of small dimensions are best treated with solid carbon dioxid which often produces most gratifying results. Freezing with CO_2 will also effect a considerable lessening of the intensity of the discoloration in "port wine" stains if the treatment is perseveringly carried out. In severe cases good results may be obtained by fulguration, skillfully applied. Ultraviolet rays from a mercury vapor lamp are also claimed to be serviceable.

Cavernous angioma may be treated by ligation, galvanocautery, electrolysis, or excision. For the large angiomata with enlarged subcutaneous veins and considerable swelling, nothing quite equals the use of heavily filtered radium in large dosage.

TELANGIECTASIS

Definition.—Telangiectasis is a term applied to a vascular new growth or enlargement of capillaries developed in adult life.

Telangiectases are *acquired* growths; nevi are *congenital* growths.

Symptoms.—They occur either in circumscribed, elevated, pea-sized patches, with radiating capillaries (*nævus araneus, spider nevus*), or as a generalized dilatation of vessels (*rosacea*). The latter is apt to be complicated by acne lesions. The face and chest are the regions usually affected.

Treatment.—The condition is most successfully treated by electrolysis or the use of the needle Pacquelin or galvanocautery.

LYMPHANGIOMA

Derivation.—ἀγγεῖον', vessel. *Lympha*, lymph.

Symptoms.—The disease is extremely rare. There are two varieties:

Lymphangioma circumscriptum (*lymphangiectodes*) is characterized by numerous small, closely aggregated, deepseated translucent vesicles, which have either the normal tint of the skin or are yellowish or pinkish. They are usually seated upon the upper parts of the extremities, neck or back.

The disease, as a rule, makes its appearance in infancy or early childhood.

Lymphangioma tuberosum multiplex appears as numerous, scattered, pea- to bean-sized, elevated, brownish-red, glistening tubercles, occurring most frequently upon the trunk. The tubercles are somewhat painful on pressure.

Pathology.—Lymphangioma shows, under the microscope, both dilatation of preëxisting lymph-channels and formation of new lymphatic vessels and spaces.

Treatment.—When desirable, extirpation by means of electrodesiccation or excision.

RHINOSCLEROMA

Derivation.—Ῥίς, or ῥίν, the nose; σχληρός, hard.

Definition.—Rhinoscleroma is a rare disease, affecting the skin and mucous membrane of the nose, and characterized by irregularly shaped, flattened new growths of almost stony hardness.

Symptoms.—The growth, which begins usually upon the alæ of the nose consists of circumscribed, dense, hard nodules, which tend to become confluent. The overlying skin is normal in color or may be reddened. The disease runs an extremely slow course, the growths gradually encroaching upon the nares until partial or complete stenosis is produced. Ulceration rarely, if ever, occurs. There are no subjective symptoms.

Pathology.—The growth is looked upon as an infectious granuloma. Bacilli have been isolated which are believed to be causative. The microscope shows a dense cell infiltration.

Prognosis.—Unfavorable. The affection usually persists throughout life.

Treatment.—Antiseptic tampons or tents are valuable to preserve the caliber of the nasal orifices. Caustics and the knife have been used, but the results of such treatment are unsatisfactory. Excision is followed by recurrence. Some cures have been reported following the use of the X-rays.

LUPUS ERYTHEMATOSUS

Derivation.—*Lupus*, a wolf.

Synonym.—Lupus erythematodes; seborrhea congestiva; lupus non-exedens.

Definition.—Lupus erythematosus is a cutaneous new growth characterized by well-defined reddish patches covered with yellowish or grayish adherent scales.

Symptoms.—The disease begins as one or more rounded or oval, pinhead- to pea-sized erythematous spots, which

FIG. 92.—LUPUS ERYTHEMATOSUS, THE SO-CALLED "BUTTERFLY-SHAPED PATCH."

increase in size, either by peripheral extension or by coalescence of neighboring lesions. When fully developed, the disease appears as one or more sharply marginated, reddish or violaceous patches, varying in size from a small coin to the palm of the hand. The surface is covered with grayish or

yellowish scales, firmly adherent to and dipping down into the patulous and distended openings of the sebaceous glands. The border of the patch is somewhat elevated, while the central portion is slightly depressed. Whitish atrophic scarring is usually present although ulceration never occurs. There is more or less infiltration and thickening. The subjective symptoms consist of moderate itching and burning.

The region most frequently affected is the face, particularly the cheeks and nose. Less frequently the scalp is affected, areas of loss of hair resulting. The lips, more rarely, the buccal mucous membrane may also be attacked.

The disease pursues a slow course, lasting months, and at times years. Occasionally involution of the patches occurs, with or without the persistence of scars.

An acute type of lupus erythematosus has been observed in which patches develop with rapidity upon the trunk and extremities as well as the face. Many of these patients develop a pneumonic condition with fever and a fatal termination results in at least one-half of the cases.

Etiology.—The cause is obscure. Erythematous lupus is essentially a disease of adult life. It is more common in women than in men. French writers believe the disease is caused by the tubercle bacillus and this view appears to be gaining more extended acceptance. Some writers believe focal infections to be causative in some cases.

Pathology.—Lupus erythematosus is considered by some as a new growth, by others as a chronic inflammation. There is visible under the microscope a dense, small cell infiltration in the upper layers of the corium, particularly around the blood-vessels. Some of these cells are observed later to undergo granular and fatty degeneration. The sebaceous glands are hypertrophied. The layers of the epidermis are atrophied.

Diagnosis.—Lupus erythematosus may be distinguished from lupus vulgaris as follows:

Lupus Erythematosus	Lupus Vulgaris
1. Develops in adult life.	1. Develops in childhood or youth.
2. Disease is superficial.	2. Disease is deep-seated.
3. The lesions are well-defined scaly patches.	3. The lesions are discrete papules and tubercles.
4. Sebaceous ducts patulous or distended.	4. Sebaceous system not involved.
5. Ulceration never occurs.	5. Ulceration with scarring nearly always present.

Fig. 93.—Lupus Erythematosus.

Prognosis.—Favorable as to ultimate cure (with the exception of the acute cases), but guarded as to duration of disease.

Treatment.—Within recent years the treatment of lupus erythematosus has been revolutionized by the introduction of the use of gold. After considerable experimentation I have come to the conclusion that the most eligible preparation is gold and sodium thiosulphate. This is ordinarily used in the dose of 50 to 100 mg. injected intravenously once a week. It is best to begin with a dose of 25 mg. as patients vary enormously with respect to tolerance of the drug. Success or failure may depend upon manipulation of the dosage. In acute disseminate cases the initial dose should not be over 5 or 10 mg. An excessive dose may precipitate a fatal outcome.

In the rare cases in which gold fails small doses of neoarsphenamine 0.2 to 0.3 grams may be tried. Quinine, in 10 to 15 grain doses daily, is sometimes of service.

The local treatment consists in the use of sedative or stimulating applications, according to the nature of the case.

Inasmuch as a certain number of cases get spontaneously well with little or no scarring, the milder remedies should always be given a fair trial.

Freezing with the solid CO_2 appears to give better results than any other single local agent. The results are much more satisfactory in chronic indolent cases. Acutely spreading eruptions or highly inflammatory lesions should not be so treated.

Local remedies have much less significance since the introduction of gold. In the vast majority of cases it is not necessary to employ local treatment. While the X-rays and radium have been employed by able dermatologists I am, generally speaking opposed to their use, except under rare and exceptional circumstances.

LUPUS VULGARIS

Derivation.—*Lupus*, a wolf.

Synonyms.—Lupus exedens; lupus exulcerans; noli-me-tangere; tuberculosis of the skin (one form).

Definition.—Lupus vulgaris is a tuberculous cellular new growth, characterized by reddish or brownish patches consisting of papules, nodules, and flat infiltrations, usually terminating in ulceration and scarring.

Symptoms.—The disease commonly begins as numerous pinpoint- to pinhead-sized, grouped or disseminated, reddish,

FIG. 94.—LUPUS VULGARIS.

yellowish, or brownish flat papules. They are softer than the surrounding skin, in which they appear to be imbedded. Hutchinson has likened their appearance to "apple jelly."

These papules develop later into pea-sized or larger tubercles or nodules, which ultimately become aggregated in vari-

ously sized and shaped patches covered with imperfectly formed epidermis. After a variable duration the nodules coalesce chiefly by individual extension, forming dull red, raised, soft patches.

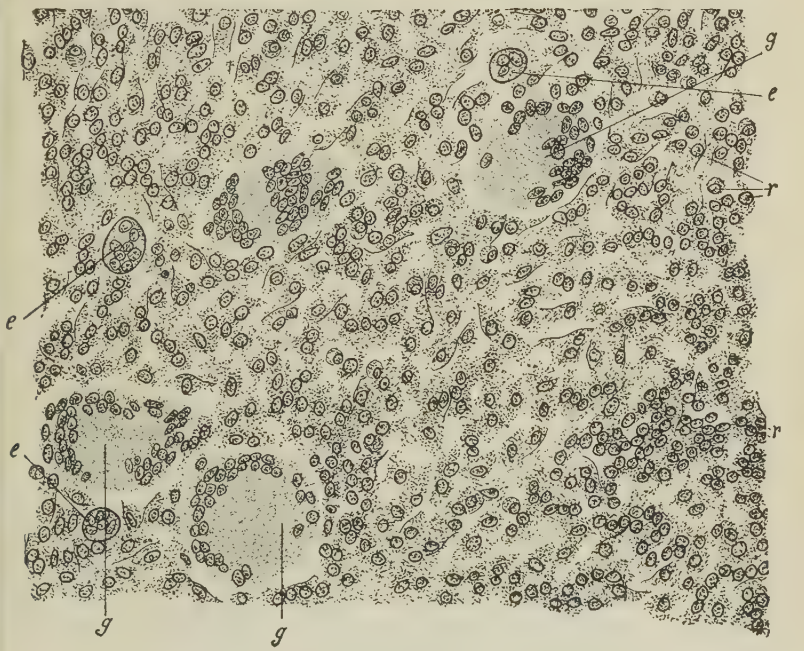


FIG. 95.—LUPUS VULGARIS SECTION (high power).

g, g, g. Langhans' giant cells; *e, e, e.* epithelioid cells; *r, r.* small round cells (courtesy of Dr. J. T. Bowen).

The lupus nodules or patches may remain stationary for some time, but sooner or later undergo retrogressive change. The lesions may disappear by absorption, leaving a somewhat scarred, scaly, and atrophic skin (*lupus exfoliativus*), or, as is the more usual course, by ulceration, with resulting crusts and cicatrices (*lulus exedens*, *lupus exulcerans*).

At times exuberant granulations spring up upon the borders of the ulcer (*lupus hypertrophicus*), or there may develop even papillomatous outgrowths (*lupus papillomatosus*).

The most frequent seat of lupus is upon the face, particularly the nose, cheeks, and ears. The trunk and extremities may also be involved. Besides the skin, lupus occasionally attacks the mucous membrane and cartilage of the nose, mouth, pharynx, larynx, or ears.

Subjective symptoms are, as a rule, wanting, although there may be slight pain.

The course of the disease is eminently chronic, the affection persisting for years, and frequently a lifetime.

Etiology.—The vast majority of cases begin before the age of twenty, and many before the age of ten. The disease, however, is never congenital.

Lupus vulgaris is due to the invasion of the skin by the tubercle bacillus.

Pathology.—A section of lupus tissue shows, under the microscope, sharply circumscribed nests of cell infiltration in the deeper layers of the corium. Epithelioid cells are present in varying numbers, and giant cells in abundance. Tubercle bacilli are few, and only discoverable by examination of many sections. When ulceration occurs, the center of the nodules undergoes coagulation necrosis and fatty degeneration. Inoculation of lupus tissue to a guinea-pig will produce a generalized tuberculosis.

Diagnosis.—The diseases most apt to be confounded with lupus vulgaris are the tubercular syphiloderm, lupus erythematosus, and epithelioma.

Lupus Vulgaris	Tubercular Syphiloderm
1. Develops usually before the age of puberty.	1. Develops after the age of puberty.
2. Course slow.	2. Course rapid.
3. History, perhaps, of scrofulous hereditary tendency.	3. History of infection.

4. Concomitant signs of tuberculous diathesis.	4. Concomitant signs of syphilis.
5. Nodules soft.	5. Nodules hard.
6. Ulcers are comparatively superficial, with irregular undermined edges; discharge slight; crusts scant and reddish-brown.	6. Ulcers are deep, with sharpcut edges; discharge copious; crusts bulky and greenish.
7. New lesions often seen in scar tissues.	7. New lesions appear on border beyond scar tissue.
8. Scars yellowish, shrunken, and hard.	8. Scars whitish, soft and smooth.
9. Refractory to all but destructive measures.	9. Rapid healing under the iodids and mercury.
10. Wassermann reaction negative.	10. Positive Wassermann reaction.

The differential diagnosis from lupus erythematosus will be found under that disease.

Lupus Vulgaris	Epithelioma
1. Develops usually before puberty.	1. Develops in middle and advanced life.
2. Course extremely slow.	2. Course more rapid.
3. Little or no pain.	3. Usually painful.
4. Ulcers multiple and superficial.	4. Ulcers single and deep.
5. Edges and base soft.	5. Edges and base hard. Characteristic pearly border.

Prognosis.—The disease runs an eminently chronic course. The prognosis depends upon the age of the patient and the form, extent, and duration of the disease. Occurring in small, circumscribed patches the prognosis is favorable.

Treatment.—General hygienic measures, such as nutritious diet, fresh air, exercise, etc., should receive attention. In many cases the administration of such remedies as cod-liver oil, iodid of iron, etc., is indicated, although no direct curative influence is to be expected from their use. Tuberculin has been used in some cases with encouraging results. Its curative value, however, is at the present time still conjectural. Gold and sodium thiosulphate intravenously in doses of 50 to 100

mg. weekly may be tried, but the results are much less satisfactory then in lupus erythematosus. A measure of improvement may, however, be achieved and this treatment may be used in conjunction with local measures.

Local treatment has for its object the extirpation of the lupus tissue with as little resultant scarring as possible.

Before resorting to chemical caustics or surgical interference, it is well in some cases to employ milder measures.

In hyperemic cases the condition is sometimes improved by the continued application of calamin lotion. Mercurial plaster occasionally exerts a beneficient influence on the disease. A salicylic acid (twenty per cent.), creosote (forty per cent.), or resorcin plaster may be used with good results.

Most cases, however, require more heroic treatment.

The *solid stick of nitrate of silver* is useful in the treatment of small discrete lesions. It is bored into the tissue until the nodule is destroyed. Every few days new lesions are attacked.

Pyrogallic acid is a slow but practically painless caustic. It may be used in ointment as follows:

℞. Acidi pyrogallici..... ʒii
Cerati resinæ..... ʒi
Sig.—Spread on lint and apply over affected area.

Arsenious acid is a rapid caustic, exerting a selective action upon diseased tissue. It is, however, very painful and can only be used over small areas on account of the danger of absorption.

℞. Acidi arseniosi..... gr. xx
Pulv. acaciæ..... ʒj
Aquæ, q. s. ft. past. M.
Sig.—Spread on lint and apply for twenty-four hours. Then poultice until slough comes away.

Chlorid of zinc is a more powerful caustic, not so painful as arsenic, and does not cause as much surrounding inflammation.

It does not, however, select diseased tissue, but destroys healthy tissue as well.

℞. Zinci chloridi..... 75 parts
Zinci stearat..... 25 parts

Sig.—Make into a paste when ready to use, with a small amount of alcohol. The depth of destruction depends upon the thickness of the layer of paste spread on the skin. Allow to remain about 24 hours.

Curetting is an extremely valuable procedure. It is often supplemented by the use of a caustic or the application of the Paquelin cautery.

Fig. 96.—Dermal Curets.

Scarification is a most useful measure, particularly in diffuse superficial patches. Numerous parallel incisions, crossed at right angles by others, are made through the skin by means of a sharp scalpel or scarifier. This is often advantageously followed by the application of an iodoform ointment or a bichlorid of mercury lotion.

Fig. 97.—Multiple Scarifier.

The *galvano-cautery* and the *Paquelin cautery* find a distinct field of usefulness in the treatment of certain forms of this disease.

The employment of concentrated sunlight and electric light with an apparatus specially devised by Finsen, has given most excellent results both as regards permanence of cure and

subsequent cosmetic appearance. The treatment is however, long and tedious and requires an expensive outfit. Within recent years, most encouraging results in the treatment of lupus have been reported from the use of the X-rays; one advantage of the latter treatment is that a large portion or the entire diseased area may be exposed to the rays at one time thus greatly shortening the period of treatment. They are particularly valuable in open or ulcerated cases. If they do not do well the rays should not be continued as undesirable structural changes will be brought about. (See section on X-rays.)

SPOROTRICHOSIS

Definition.—Sporotrichosis is an infectious disease due to invasion of the skin with the sporothrix (Sporotrichium) and characterized by multiple subcutaneous abscesses, followed in some cases by involvement of one or more of the viscera.

This disease was first described by Schenck in 1898. Since then a number of workers have reported cases, but the most important contributions to our knowledge have been made by De Beurmann and Gougerot.

Symptoms.—The disease usually develops after some slight traumatic lesion of the skin. At the site of infection a lesion may appear which bears some resemblance to a chancre. Soon a chain of subcutaneous nodules form about the size of a cherry or larger, following the line of the lymphatics. These rapidly develop into abscesses some of which break down and form fistulous ulcers. One type of the disease strongly resembles syphilis (syphiloid type), another tuberculosis (tuberculoid type), while a third looks like huge pyogenic abscesses. In rare instances, the bones and joints may become affected, and in experimental animals, some of the viscera.

Etiology and Pathology.—The causative parasite, the sporotrichium, is an aerobic fungus, which can be readily grown at room temperature in glucose agar or other suitable

media. Long slender mycelia and round or oval spores are seen. The disease is encountered in some of the lower animals. Histologically, there is a central suppurative area with polynuclear cell infiltration, surrounded by an area resembling tuberculosis infiltration with giant cells, and a peripheral area exhibiting perivascular cellular deposit.

Treatment.—The iodides are regarded almost as a specific. Under vigorous doses the eruption usually disappears. The X-rays are also useful.

BLASTOMYCETIC DERMATITIS

Definition.—A rare disease, produced by the invasion of the skin by the blastomyces, and characterized by warty or papillomatous outgrowths.

Symptoms.—The dorsum of the hand and the interior surface of the leg are the regions most frequently affected although the face and other areas may present lesions. The disease begins as a maculo-papule or nodule, which tends to break down and suppurate.

Later the surface becomes warty or papillomatous and exudes a puriform secretion. The disease pursues a chronic course. It must be differentiated from verrucose tuberculosis, lupus vulgaris, and the late syphiloderm, to which it may bear a very close resemblance. The yeast fungus is found in the skin and may be grown in culture.

Treatment.—Considerable improvement at times follows the use of potassium iodid. The local treatment is practically the same as that employed in lupus vulgaris. The X-rays may often be employed with advantage.

SCROFULODERMA

Derivation.—*Scrofa*, a sow.

Definition.—Scrofuloderma is a tuberculous affection of the skin and subcutaneous tissues, originating in the lymph-glands and terminating in ulceration of the integument.

Symptoms.—The affection begins in one or more lymph-glands, which become swollen, constituting variously sized tumors, unaccompanied by redness or pain. Later these

FIG. 98.—TUBERCULOSIS VERRUCOSA CUTIS.
Patient also had pulmonary tuberculosis.

glands undergo caseation and suppuration, the overlying skin becoming tense, violaceous, and riddled with sinuses, which permit the escape of a caseous, sanious pus.

The scrofulous ulcer is usually almond-shaped, with thin, violaceous, undermined edges, and an uneven base made up of pale, flabby granulations.

The course is slowly progressive. When cicatrization occurs the scars are seen to be irregular, knotty, and hard.

The most common seat of the disease is about the face and neck.

Conjunctivitis, keratitis, blepharitis, rhinorrhea, otorrhea, bone trouble, etc., are at times associated with the lymphatic and cutaneous involvement.

Etiology.—Scrofuloderma is a form of cutaneous tuberculosis and is due to the tubercle bacillus.

Diagnosis.—From lupus vulgaris, scrofuloderma may be distinguished by the absence of outlying tubercles and patches. From syphilis it may be distinguished by the peculiar character of the scrofulous ulcer, the history, course, and presence of other signs of struma.

Treatment.—The constitutional treatment consists of good food, proper hygiene, and the use of such tonics as cod-liver oil, and iodid of iron.

The local treatment has for its object the destruction of the ulcers. This may be accomplished by the use of the curet or caustics. The X-rays are of great value in this condition.

TUBERCULOSIS CUTIS ORIFICIALIS

This form of tuberculosis of the skin is characterized by indolent, discrete, round or oval, shallow, granulating ulcers, often covered with thin crusts, occurring in the neighborhood of the orifices of the body (anus, vulva, nose, and mouth). The ulcers are painless, have no tendency to heal, and pursue a slow progressive course. There is nearly always visceral tuberculosis present, and frequently there are lesions of the adjacent mucous tracts which show yellowish miliary papules.

This affection was formerly regarded as the sole manifestation of true tuberculosis of the skin.

TUBERCULOSIS VERRUCOSA CUTIS

Synonyms.—Verruca necrogenica; postmortem wart; anatomic tubercle.

Definition.—Warty tuberculosis of the skin is a disease occurring usually about the hands or feet, characterized by one or several verrucous nodules.

Fig. 99.—Tuberculosis Verrucosa Cutis.

Symptoms.—The affection begins at the site of an abrasion as an inflammatory plaque or vesico-pustule; this slowly increases in size, and is attended by burning and itching. The fully developed lesion is usually bean-sized, flattened, and covered

with a horny or warty surface or with crusts. The fingers and knuckles are the favorite seats.

Etiology.—The affection occurs in physicians, dissecting room attendants, and those coming in contact with the cadaver. Butchers are also subject to infection.

Pathology.—The disease is produced by inoculation with the tubercle bacillus. This organism is found in the tissues.

Prognosis.—Unless proper treatment is instituted the disease is progressive. General tuberculous infection is rare.

Treatment.—Early cases are sometimes cured by the repeated application of tincture of iodine. The treatment consists of destruction of the diseased tissues by means of the curet or such caustics as nitric acid, caustic potash, etc. The preliminary application of a twenty-five per cent. salicylic acid plaster facilitates the treatment.

SYPHILODERMA

Derivation.—Ευζ, and φίλος, a companion of swine.

Synonyms.—Syphilis cutanea; dermatosyphilis; syphilis of the skin; lues.

Definition.—Syphilis is an infectious disease due to invasion by the spirochaeta pallida (treponema pallidum) which gains entrance as a rule through the skin or mucous membrane, and becomes diffused throughout the body through the lymph and blood streams. At the site of infection a lesion known as the "chancre" usually develops. This appears commonly between three and four weeks after exposure. Enlargement of the neighboring lymphatic glands rapidly takes place. About six weeks, on an average, after the appearance of the chancre, the so-called secondary symptoms appear. These may be preceded by anemia, loss of weight, rheumatoid pains and an invasive fever.

The eruption and other local manifestations are due to a spirochaetic diffusion through the blood paths. The parasites

are deposited in the skin and mucous membrane, giving rise to cutaneous and mucous membrane lesions. They are likewise deposited in the various organs and tissues of the body, not excepting the central nervous system.

In many cases, as a result of treatment or possibly through the influence of local antibodies, the parasites are destroyed in various localities of the body. Those that remain may rest in a latent condition for many years, and then as a result of causes but little understood, take on noxious activity and cause the development of gummata in the skin, viscera, or the tissues. Inflammatory and degenerative changes may likewise take place later in the central nervous system.

Symptoms.—Syphiloderma constitutes about ten per cent. of all skin affections.

The eruption of syphilis may be macular, papular, vesicular (rare), pustular, bullous, tubercular, gummatous, or mixed.

General characteristics of syphilitic eruptions:

1. Distribution.—Early or secondary eruptions are generalized and symmetric. The late or tertiary eruptions are circumscribed and asymmetric.

2. Color.—The color is brownish or yellowish-red, often ham- or copper-colored. The lesions have a cold, non-inflammatory appearance. The roseola may, however, be pinkish red when it first appears.

3. Absence of subjective symptoms.—Itching, burning, and pain are, as a rule, absent.

4. Polymorphism or multiformity.—Several types of lesions are often seen associated, such as papules and pustules.

5. Configuration.—Papular and tubercular eruptions, particularly the latter, are apt to assume a circular, crescentic, or serpiginous arrangement.

The early eruptions of syphilis are often preceded by fever, lassitude, headache, muscular and osseous pains, and accompanied by anemia, enlargement of lymphatic glands, congestion and ulceration of throat, mucous patches, alopecia, etc.

The early eruptions may be distinguished from the late eruptions as follows:

Early Eruptions	Late Eruptions
1. Accompanied by constitutional disturbances, sore throat, alopecia, etc.	1. May be accompanied by osteocopic pains and stigmata of former manifestations.
2. Eruption generalized and symmetric.	2. Eruption circumscribed and asymmetric.
3. Lesions comparatively superficial and not destructive.	3. Lesions deep-seated and destructive.
4. Eruption macular, papular, or pustular.	4. Eruption tubercular, gummatous, and ulcerative.

Fig. 100.—Macular Syphilis.

Syphiloderma Erythematosum (*Macular Syphiloderm, Roseola*).—The macular syphilide is the most frequent form assumed by the early eruption. It develops, usually, from six to eight weeks after the initial lesion. It is characterized by rounded, oval, or irregular, pea- to finger-nail-sized, ill-defined macules, which are at first of a rose-red color, later becoming violaceous, brownish, or yellowish. The trunk, particularly the anterior surface, and the extremities are most abundantly involved. The face is usually although not invariably exempted. The eruption lasts from one to four weeks. Papular lesions may also be present.

Diagnosis.—The macular syphiloderm is to be differentiated from measles, tinea versicolor, and the rashes due to copaiba and other drugs.

Macular Syphiloderm	Measles	Tinea Versicolor	Dermatitis Medicamentosa (Copaiba, Quinin)
(1) Associated symptoms of syphilis, mucous patches, alopecia, enlarged glands, etc.			
(2) Fever occasional and usually slight.	(2) Considerable fever and catarrhal symptoms involving eyes, throat and chest.		(2) Fever occasional.
(3) Eruption chiefly on trunk and extremities, face usually free.	(3) Face first involved; later trunk and extremities.	(3) Eruption confined to chest, shoulders and back.	(3) Face often involved.
(4) Eruption consists of pea- to finger-nail-sized, oval or rounded macules, at first rose-red, later violaceous, brownish or yellowish.	(4) Eruption consists of pinkish-red irregular macules or maculo-papules, at times crescentically arranged; appearance "blotchy."	(4) Eruption consists of large irregular, yellowish-brown macules. Furfuraceous scaling. Fungus present.	(4) Eruption erythematous or urticarial.
(5) Itching absent.	(5) Itching moderate.	(5) Itching moderate.	(5) Itching severe.
(6) Wassermann reaction positive.			

Syphiloderma Papulosum occurs as two varieties—the large and the small papular syphilide.

The Small Papular Syphiloderm (*miliary papular syphilide* or *follicular syphilide*) may occur as an early or relatively late eruption. It is characterized by a profuse eruption, most

Fig. 101.—Syphiloderma Papulo-tuberculosum.

abundant upon the trunk, arms, and thighs, consisting of disseminated or grouped, pinhead- to millet-seed-sized, rounded or acuminated firm papules, with vesicular, pustular, or scaly summits. The color is at first bright red, later brownish-red. Small pustules or large papules may be interspersed. Itching may be present in this variety.

Diagnosis.—The miliary papular syphiloderm may be distinguished from lichen scrofulosum, psoriasis punctata, keratosis pilaris, and lichen ruber by the distribution and extent of the eruption, the presence of interspersed pustules, and the associated symptoms of syphilis, including a positive Wassermann reaction.

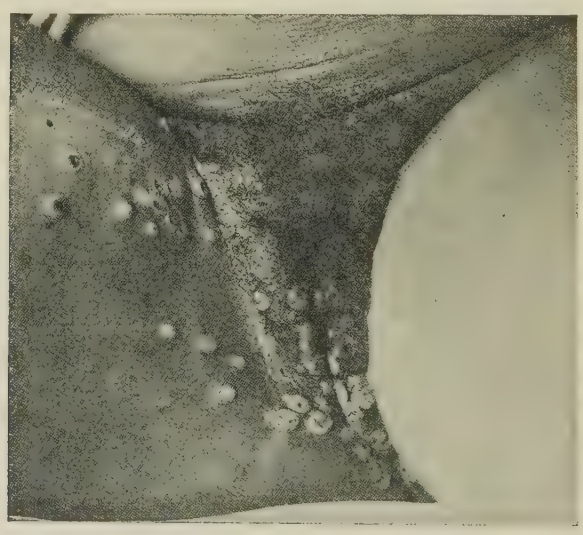


FIG. 102.—MOIST PAPULES.

The LARGE PAPULAR SYPHILODERM (*lenticular papular syphilide*) is an extremely common manifestation of syphilis, following often upon the macular eruption. It is characterized by pea- to fingernail-sized, rounded or oval, convexly flat, firm, brownish-red papules. The lesions develop slowly, and are at first smooth, later scaly. The eruption is usually extensive, the forehead, nape of neck, chin, arms, genitals, etc., often being involved. The eruption persists for several weeks or months, responding rather readily to treatment.

The large, flat papular syphiloderm may undergo certain changes, giving rise to (1) the moist papule and (2) the squamous papule.

The *moist papule* (*flat condyloma*) is a modified, large papular syphilide, occurring upon opposing skin surfaces such as the nates, perineum, genitalia, etc. It differs from the dry papule in being moist, softer, and flatter, and covered with a grayish mucoid pellicle made up of macerated epidermis. Large flat patches are occasionally formed through the coalescence of neighboring lesions. Moist papules occasionally become hypertrophic and covered with warty papillary growths (*hypertrophic* or *vegetating papules*).

The Papulosquamous Syphiloderm (*squamous syphilide*) results when the papules begin to desquamate. The lesions are flattened and covered with thin, scanty, dirty-grayish scales. The eruption is rarely extensive. It may occur anywhere upon the body but shows a predilection for the palms and soles (*palmar* and *plantar syphiloderm*), where it constitutes an obstinate manifestation. When both palms or soles are affected the eruption is probably an early one, when unilateral it is late.

Diagnosis.—The disease most apt to be confounded with the papulosquamous syphiloderm is psoriasis.

Papulosquamous Syphiloderm	Psoriasis
1. History of syphilis.	1. History, perhaps, of previous outbreaks.
2. Concomitant signs present.	2. No associated signs.
3. Favorite seats, palms and soles.	3. Favorite seats, knees and elbows.
4. Itching usually absent.	4. Itching present.
5. Multiformity of lesions; uniformity in size.	5. Uniformity of lesions; great variation in size.
6. Scales scanty and dirty-grayish.	6. Scales abundant, lamellar, and silvery.
7. Beneath the scales, infiltrated, dull red papules.	7. Beneath the scales, flat, reddish patches.
8. Positive Wassermann reaction.	

Syphiloderma Vesiculosum.—The vesicular syphilide is by far the rarest of all the cutaneous manifestations of syphilis. It occurs as small miliary or larger pea-sized (*varicelliform syphilide*), occasionally unbilicated vesicles, developing usually upon regions where the skin is thin. Papules and pustules may also be present. The eruption is an early one and runs a rapid course.

Fig. 103.—Papulo-Squamous Syphilide.

Syphiloderma Pustulosum may be divided into four subvarieties: (1) Small acuminated pustular syphilide, (2) large acuminated pustular syphilide, (3) small flat pustular syphilide, (4) large flat pustular syphilide.

The Small Acuminated Pustular Syphiloderm (*miliary pustular syphilide*) occurs as an early or late secondary manifestation. It is usually profusely generalized, consisting of small, disseminated or grouped, pinhead- to millet-seed-sized, acuminated pustules seated upon a dull red papular base. The lesions are located at the mouths of hair-follicles,

and are seen to be perforated by hairs. They soon dry to crusts, which fall off, leaving a fringe-like annular epidermal exfoliation around the base, which has been termed the "collarette." Miliary papules may also be present. The favorite regions are the arms, thighs, chest, and back.

The Large Acuminated Pustular Syphiloderm (*acneiform syphilide*, *varioliform syphilide*) is a rather uncommon manifestation, occurring early and running a rapid course. It consists of split-pea-sized or larger acuminated pustules, somewhat resembling acne or variolous lesions. The pustules dry to crusts, beneath which superficial ulceration takes place. The favorite regions are the scalp, face, and trunk; more rarely the extremities. This is not uncommon in negroes.

Diagnosis.—Acne and smallpox are to be differentiated from this form of syphilide.

Papulopustular Syphiloderm	Acne
1. Concomitant signs of syphilis.	1. Absent.
2. Occurs usually in adult life.	2. Occurs at the age of puberty.
3. Course acute.	3. Course chronic, with exacerbations.
4. Distribution general.	4. Limitation of lesions to face.
5. Color brownish-red or ham-colored.	5. Color light or dark red.
6. Tendency to ulceration.	6. No tendency to ulceration.
7. Positive Wassermann reaction.	

Smallpox may be distinguished by the more severe constitutional disturbance, the early shot-like induration, the course of the lesions, their umbilication, and the absence of concomitant signs of syphilis. A point of much importance is that the *pustular* syphilide never occurs upon the palms of the hands and soles of the feet. Whereas the smallpox eruption is almost invariably present in these regions.

The Small Flat Pustular Syphiloderm (*impetigoform syphilide*) is characterized by small, flat, pea-sized pustules, grouped in irregular clusters and occurring in the first year

of the disease. Crusting occurs early and is profuse (*pustulo-crustaceous syphilide*), the color being yellowish, greenish or brownish. Beneath the crusts superficial or deep ulceration occurs. The favorite seats are the nose, mouth, beard, scalp, and genitals.

Diagnosis.—The small, flat pustular syphilide may be differentiated from contagious impetigo and pustular eczema by the history and course of the disease, the occurrence of ulceration, and the concomitant signs of syphilis including a positive Wassermann reaction.

The Large Flat Pustular Syphiloderm (*ecthyma-form syphilide*) occurs as a generalized eruption, consisting of large fingernail-sized, flat pustules, seated upon a dark red base. The pustules tend rapidly to crust.

There are two varieties—the superficial and the deep. The superficial form is characterized by flat, roundish or oval, brownish crusts, beneath which is a superficial ulceration. This is a common and benign manifestation, occurring during the first year of the disease. The favorite seats are the back, shoulders and extremities.

In the deep form, or *rupia*, the crusts are more bulky, conical, of a greenish or blackish color, and concentrically stratified, like the layers of an oyster-shell. Beneath the crust is a deep, punched-out ulcer, covered with a greenish-yellow, puriform secretion. It is a late and malignant form.

Syphiloderma Tuberculosum (*Tubercular Syphilide*).—This is a late or tertiary manifestation, occurring usually between two and ten years after infection. It is characterized by disseminated or grouped pea- to hazel-nut-sized, rounded or acuminated, smooth, firm, deeply seated nodules. The color is brownish-red, bluish-red, coppery, or yellowish-brown. The lesions are, as a rule, comparatively few, and tend to become aggregated in groups, arranging themselves in circles or segments thereof. The coalescence of neighboring groups may produce patches of serpentine configuration (*serpiginous tuber-*

cular syphiloderm). The eruption develops most frequently upon the face, particularly about the forehead and nose.

Tubercles disappear either by absorption, leaving a brownish stain, or by ulceration, with the production of scars. The ulcer is deeply punched out, with sharp-cut edges, often crescentic in shape, and covered with a grayish-yellow, gummy secretion, which dies into brownish or greenish crusts.

Diagnosis.—The tubercular syphiloderm is to be distinguished from lupus vulgaris, leprosy, and epithelioma, particularly the first named.

Tubercular Syphiloderm	Lupus Vulgaris
1. Develops after the age of puberty.	1. Develops usually at or before puberty.
2. Course more or less rapid.	2. Course extremely slow.
3. History of infection.	3. History negative.
4. Concomitant signs of syphilis.	4. Concomitant signs, perhaps, of tubercular diathesis.
5. Nodules firm.	5. Nodules soft.
6. Ulcers are deep, with sharpcut edges. Discharges copious, crusts bulky and greenish.	6. Ulcers superficial, with soft, irregular, undermined edges. Discharges slight, crusts scanty and reddish-brown.
7. Scars whitish, soft and smooth.	7. Scars yellowish, shrunken, and hard.
8. Rapid healing under iodids and mercury.	8. Refractory to all but destructive measures.
9. Wassermann reaction usually positive.	

Syphiloderma Gummosum (*Gummatous Syphilide*).—This is a tertiary manifestation occurring some years after the contraction of the disease. It is characterized by a circumscribed infiltration in the subcutaneous tissue, manifesting itself clinically as one or several slightly raised, rounded, or flat, painless tumors (*gumma, gummy tumor, syphiloma*).

The overlying skin is in the beginning normal, becoming pinkish or reddish only when ulceration is threatened. The deposit is at first pea-sized, but in the course of several weeks

or months reaches the dimensions of a hazel-nut or walnut. It then softens, breaks down, and ulcerates, destroying the skin, subcutaneous tissue, and at times other structures. The scarring is always smoother and less disfiguring than anticipated.

FIG. 104.—ULCERATING GUMMATOUS SYPHILODERM OF LEG.

Diagnosis.—The gumma may be distinguished from furuncle, carbuncle, abscess, carcinoma, fibroma, lipoma, etc., by the origin, course, and appearance of the lesion, and the associated history. The Wassermann reaction is usually positive.

SYPHILODERMA BULLOSUM (*bullous syphilide pemphigus syphiliticus*) occurs as an early symptom in hereditary syphilis

and more rarely as a late manifestation in the acquired form. The blebs are discrete, disseminated, round or oval pea- to walnut-sized, and surrounded by a slight areola. The contents are at first serous, rapidly becoming purulent, and drying into brownish or greenish crusts. The crusts may be large, bulky, and raised or rupial, as seen in the large, flat pustular syphiloderm. Beneath the crusts are erosions or ulcers, which heal with the formation of pigmented cicatrices. The bullous syphilide usually occurs in broken-down, cachectic individuals.

Congenital Syphilis

Cutaneous Symptoms.—Syphilis may be transmitted many years after the infection of the parents. The character of the symptoms in the child will depend upon the age and activity of the disease in the father or mother. The infant may be born with a widespread eruption or such manifestations may appear within two or three months. It may, however, escape all such symptoms as are comparable with those observed in acquired secondary syphilis. Syphilis may manifest itself at the age of three to six years, in the form of tertiary skin lesions. On the other hand skin or mucous membrane lesions may never appear. At the age of six or later, an "interstitial" keratitis may develop, or there may be involvement of the auditory nerve. These two manifestations, with Hutchinson teeth constitute a convincing triad of symptoms. In the Hutchinson type of teeth, the upper central incisors are separated, peg-shaped and exhibit crescentic notching on the cutting edge. In other cases there may be disease of the joints or bones, epilepsy or other involvement of the central nervous system.

In many cases of congenital syphilis no stigmata of the disease are seen at all. The chief diagnostic points are syphilitic parentage, positive Wassermann reactions and evidences of constitutional inferiority. There may be merely persistent

anemia and underweight, or there may be enlargement of the liver or spleen, or subtle and with difficulty discoverable changes in various organs and tissues.

While infants are occasionally born with the syphilitic eruption upon them it is far more common for it to develop some

Fig. 105.—Facies of Congenital Syphilis.
Child had Hutchinson teeth and interstitial keratitis.

weeks after birth. When a generalized eruption appears it is likely to manifest itself before the end of the second month, and only rarely after the third month. The most common eruptions are the macular, papular, and bullous.

The *macular* eruption consists of fingernail- to palm-sized indistinct yellowish or brownish-red, or copper-colored ery-

thematous patches. The palms, soles, buttocks, thighs, and genitalia are frequently attacked. The patches may be dry or moist, the latter resembling at times erythema intertrigo or

FIG. 106.—GUMMAS OF THE METACARPAL AND PHALANGEAL BONES (DACTYLITIS SYPHILITICA) IN A CASE OF CONGENITAL SYPHILIS.

eczema. The palms and soles are apt to present a characteristic reddish glazed and wrinkled appearance.

The *papular* eruption often develops from the macular, the combination constituting the commonest syphilide observed in

the infant. The papules are pea- to fingernail-sized, smooth, glazed, and usually of a brownish or yellowish-red color. Occurring in the folds of the skin, they often degenerate into moist papules.

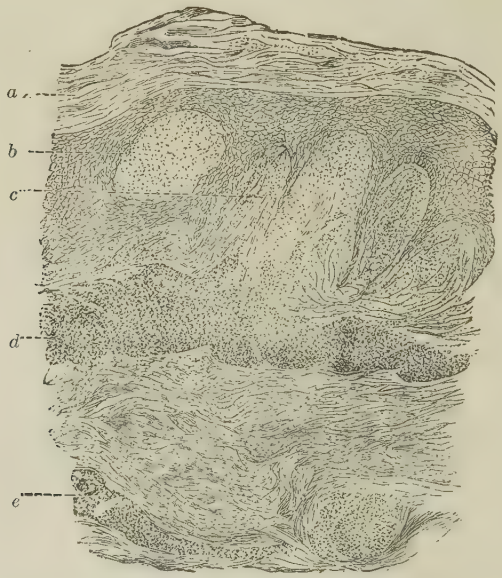


FIG. 107.—CIRCINATE SQUAMOUS SYPHILIDE. ×125.—(*After Crocker.*)
a. Horny layers forming scales. *b*. Oblique section of an enlarged papilla in a greatly thickened rete mucosum. *c*. Enormously enlarged papilla with cell exudation separating its fiber. *d*. Dense round cell infiltration in masses around the vessels. *e*. Similar cell exudation around a vessel of the deeper plexus. There is also a scanty cell effusion all through the corium.

The *bullous* eruption when it occurs is usually present at birth. It consists of variously sized discrete, flat or semiglobular blebs, situated upon an unhealthy-looking skin. When rupture takes place an excoriated or ulcerated base is exposed. The palms, soles, fingers, and toes are most frequently involved.

In addition to the above eruptions, the syphilitic infant presents a *weakened, senile, emaciated appearance, coryza* or *snuffles, hoarseness, mucous patches* in the mouth, etc.

Pathology.—Syphilis is an infectious granuloma due to invasion of the system with the spirochæta pallida (treponema pallidum). This organism is found in great profusion in the chancre, and in progressively smaller numbers in the secondary and tertiary manifestations.

The syphilitic process is characterized by a distinctly circumscribed and homogeneous cell infiltration, tending to spread upon the periphery, at the same time undergoing central involution. The cell infiltration exhibits a characteristic tendency to surround and involves blood-vessels and lymphatics. The infiltrate, which lies in the corium and subcutaneous tissue, disappears either by absorption or ulceration.

Prognosis.—The prognosis of acquired syphilis is in a general way, favorable; vigorous and often prolonged treatment is necessary to effect cures. Many persons, through inadequacy of treatment remain uncured and succumb after the fourth decade of life to degenerative changes in various organs and tissues. In congenital syphilis with early manifestations, the immediate prognosis is guarded.

Treatment

General Management.—The treatment of syphilis has for its object the complete destruction of the spirochetes in the body.

The earlier in the disease treatment is instituted the greater is the likelihood of radical sterilization. The most favorable period is the stage of the chancre, before the Wassermann test has become positive. The more circumscribed and less diffused the infection the greater is the chance of cure. In a general way, the curability of syphilis is inversely as its duration.

Vigorous Treatment.—In the early stages of the disease, the patient should be treated as vigorously as is compatible with his safety. This is justified in the hope of producing a complete cure. Late in the disease or in aged subjects or in those whose organs are damaged such intensive treatment is not justified.

The organic arsenicals, bismuth and mercury are the best and perhaps the only spirochæticidal remedies known.

No particular therapeutic program has thus far been suggested which commands general acquiescence. The following is suggested, with the reservation that it may later be supplanted by a superior method.

The Treatment of Primary and Secondary Stages:

The patient should receive (a) an injection of 100 mg. of bismuth (tartro-bismuthate of potassium and sodium) suspended in oil, once a week, deep into the gluteal muscles. Three days later 0.45 gm. of neoarsphenamin intravenously. The dose in males may be increased to 0.6 gm. This treatment should be kept up for 10 weeks. At the end of this time, a rest of 2 weeks, and then a Wassermann test. If positive, a continuance of the neoarsphenamin, with one grain of salicylate of mercury substituted for the bismuth injections. If the Wassermann is negative, ten more weekly injections of the same dose of bismuth, (without neoarsphenamin). Then a rest period of one month should be allowed, and 10 injections (intramuscular) of 1 grain of salicylate of mercury given, or a course of 30 mercurial inunctions. A month later 4 weekly injections of neoarsphenamin should again be instituted.

During the second year there should be two courses of 4 injections of neoarsphenamin and two of 10 injections of bismuth. In the third year one course of each. It is wiser to adopt a therapeutic program of this character and give an irreducible minimum of treatment than to undertreat the

patient. To be sure, the treatment may have to be temporarily suspended if undesirable complications arise.

The exact amount of treatment necessary is impossible to state as every patient is a rule unto himself.

A negative Wassermann obtained during the first year does not warrant cessation of treatment, as serologic relapses are not uncommon.

In the treatment of long standing of chronic syphilis, the patient should be treated rather than the disease. One must endeavor to effect a disappearance of existing symptoms, but one must guard against vigorous dosage as the integrity of important organs may be endangered. Therefore small doses of any of the medicaments selected should be employed. If neoarsphenamin is used the dose should never exceed 2 to 3 decigrams, except perhaps in parenchymatous disease of the central nervous system. Bismuth, mercury and the iodides are safer remedies to use in visceral syphilis. It is perfectly safe, however, and often advantagous in cases of cardiac syphilis to use neoarsphenamin in doses of 0.1 gm. The reversal of a positive Wassermann reaction should not be the primary purpose of treatment but merely incidental. Careful attention to the general health and the removal of focal infections are important. If the resisting power of the individual can be kept up, many patients will in time spontaneously develop a negative Wassermann reaction. Before discharge of the patient from observation a *spinal fluid examination* is imperative.

Mercurial Treatment

(a) *Inunctions.*—Inunctions of mercury are of great usefulness and may be relied upon to produce a rapid effect. Thirty daily rubbings of one dram of mercurial ointment constitutes a course. The rubbings should last at least twenty minutes and different areas of the body should be anointed.

(*b*) *Hypodermic Injections.*—Soluble and insoluble preparations of mercury are employed. The bichloride, benzoate, cyanide, biniodide, succinimide and cacodylate of mercury are among the most employed soluble salts:

℞. Hydrarg. bichloridi..... gr. viii
Sodii chloridi..... gr. iv
Aquæ destillatæ..... f ℥i
M.S.—Inject 15 to 20 minims two to four times a week into the gluteal muscles. Thirty injections represent a course.

Among the most employed insoluble preparations are the salicylate of mercury, gray oil (oleum cinereum), and calomel. The following formula is much employed:

℞. Hydrarg. salicylat..... 10 Gms.
Lanolin..... 3 Gms.
Petrolati liq..... 30 Gms.
(1 c.c. = 3 grains of salicylate of mercury.)
Sig.—1 to 2 grains to be injected into the gluteal muscles every seven days for 10 injections.

Many writers prefer gray oil which is a suspended mixture of metallic mercury in an oily menstruum. It is given in about the same dosage as the salicylate of mercury.

The disadvantage of mercurial injections are the pain and subsequent nodulations and occasionally the occurrence of abscesses and localized necroses.

Mercury by the mouth although extensively employed by practitioners of medicine, is the feeblest means of administering the drug and should never be relied upon in the treatment of syphilis. The preparations ordinarily employed are mercury protiodid gr. $\frac{1}{6}$ to $\frac{1}{4}$ three times a day; mercury with chalk (hydrargyrum cum creta) gr. 1 to 2, t. i. d., biniodide of mercury gr. $\frac{1}{8}$ to $\frac{1}{4}$ t. i. d.; and bichloride of mercury, gr. $\frac{1}{24}$ to $\frac{1}{12}$ t. i. d.

Intravenous injections of soluble mercurials are advocated by some writers. They are prone to sclerose the veins unless

blood is first drawn into the syringe to mix with the solution. The cyanide of mercury is the salt most often used.

Iodids.—The potassium salt is the drug usually administered. It is of particular value in late eruptions and is best combined with mercury. The ordinary dose is from 5 to 15 grains, three times a day. It is frequently employed in nerve syphilis when the dose employed is sometimes raised to 50 or 60 grains three times a day. When the drug in the usual menstrua is not well tolerated by the stomach, it may be given in saturated solution in milk.

Bismuth

Bismuth, a relatively new remedy in syphilis, has been demonstrated to be a powerful spirocheticide. It is more therapeutically active than mercury and is less toxic. It is usually administered intramuscularly as intravenous injections are quite toxic unless a colloidal bismuth is employed. Properly given intragluteal injections are commonly painless. It is therefore particularly eligible for children and women. The ordinary dose is 100 mg. suspended in oil; in some cases this dose is increased to 200 mg. A blue line on the gums and renal irritation are evidences of toxic effect, although the former need not lead to suspension of treatment.

Arsphenamin (*Salvarsan*)

Arsphenamin or its newer modification neoarsphenamin, is the most rapidly efficient medicament, in the dose and manner administered, that we possess to combat the symptoms of syphilis. In the light of our present knowledge arsphenamin, bismuth and mercury should be used to supplement each other. Mercury continued for long periods is depressing, while arsphenamin has a rather roborant effect upon the general health.

The most efficient method of administering arsphenamin is by intravenous infusion. Sterile freshly distilled water

should be used as the solvent. The dose varies according to the body weight and general condition of the patient, and the stage of the disease. Arsphenamin is given in 3 to 6 decigram doses intravenously, and neoarsphenamin in fifty per cent. larger dosage.

Sulpharsphenamin a drug very closely related to neoarsphenamin has come into use because it is alleged to penetrate the nerve tissues better than the latter. It is also better tolerated by the muscles when intramuscular injections are given. Indeed, intramuscular treatment is perhaps a more efficient route of administration than intravenous medication. The average intramuscular dose of sulpharsphenamin is 0.3 gms. given in 1 c.c. of sterile distilled water.

Contra-indications.—The following conditions contra-indicate the use of Arsphenamin: (a) myocarditis or other grave cardiac disease; (b) severe renal disease of a non-syphilitic character; (c) advanced degenerative conditions of the central nervous system, such as advanced paresis; (d) profound debility or cachexia of nonsyphilitic character. The existence of a gumma or other syphilitic involvement of important areas of the brain should lead to great caution and deliberation.

Neuro-syphilis

In the treatment of syphilis of the nervous system, certain supplementary measures should be carried out.

The patient may suffer from cerebrospinal syphilis of the exudative type, from gumma or syphilitic infiltration or from tabes dorsalis and paresis. Other finer subdivisions have been described.

The spinal fluid obtained by puncture will often yield valuable information as to the nature of the neuro-syphilis, in addition, of course, to that secured from a study of the history and clinical symptoms.

The spinal fluid is examined for the cell count, presence of protein, Wassermann reaction, and the Gold Test. The latter often aids in differentiating paresis from other types of neuro-syphilis.

In the treatment of neuro-syphilis, in addition to the intravenous use of arsphenamin and neoarsphenamin, and mercury, bismuth and the iodides, direct treatment of the spine is sometimes indicated. At times benefit follows draining off the spinal fluid immediately after an intravenous injection. In a relatively new remedy "*tryparsamid*," one of the arsonic acids somewhat related to arsphenamin has been introduced in the treatment of syphilis of the central nervous system. It is distinctly superior to "606" in paresis and in tabes, although much inferior in the treatment of early syphilitic manifestations. It is given in courses of about 10 weekly intravenous injections in the dose of 1 to 3 grams. It may exert a toxic effect upon the optic nerve and therefore an examination of the eyes before and during treatment should be carried out.

Malarial Inoculation in Nerve Syphilis.—Within recent years a great advance in the treatment of paresis and other forms of nerve syphilis has been made through the employment of malarial inoculation. About one third of the cases of paresis thus treated develop a complete remission for a number of years, one third a partial remission, while one third are not improved. These results constitute achievements not hitherto accomplished by other methods of treatment. About 3 c. c. of malarial blood from a patient suffering from the *tertian* type are injected subcutaneously into the back. In 12 to 14 days the patient develops chills and fever. He is ordinarily permitted to have 10 to 15 paroxysms after which he is given 5 grains of quinine by mouth 3 times a day for a week and a few moderate dose injections of neoarsphenamin. The treatment is not entirely without risk. It is contraindicated if there be present myocarditis, advanced kidney disease or great debility.

Congenital Syphilis.—As in acquired syphilis the best remedies are arsphenamin and neoarsphenamin, bismuth and mercury and the iodides. It is difficult to employ intravenous injections in infants. Although those skilled may inject neoasphenamin into the longitudinal sinus through the anterior fontanelle this is a hazardous procedure. In suckling infants great benefit is derived by administering the arsenicals intravenously to the mother. The child then receives treatment through the maternal milk. An excellent method is to give intragluteal injections of sulpharsphenamin in sterile olive oil; ½ centigram per kilo (two pounds) of body weight can be administered weekly until about six doses have been given. This should be followed by a course of mercurial inunctions, (employing about 20 grains each of mercurial ointment and lanolin) to the inunction. The syrup of iodide of iron is often of value at a later period.

The clinical symptoms and the Wassermann reaction of the blood or spinal fluid should be the guides as to the duration of the treatment.

LEPRA

Derivation.—Δεπρὸς, rough or scaly.

Synonyms.—Leprosy; elephantiasis græcorum.

Definition.—Leprosy is a chronic infectious disease due to a specific bacillus, affecting with predilection the skin and nervous system, with the production of infiltrations, ulcerations, anesthesia, paralyses, and gangrene.

Symptoms.—The disease is, like syphilis, a constitutional one, and may affect any organ or tissue. Its course, as a rule, is slow and insidious. Premonitory symptoms such as mental depression, languor, malaise, drowsiness, anorexia, nausea, chills, febrile attacks, and bone pains may precede the characteristic manifestations of the disease by several weeks, months, or years.

There are two forms of leprosy, (1) nodular or tubercular leprosy and (2) anesthetic leprosy. The two forms may coexist, constituting the mixed type.

Lepra Tuberculosa (*Nodular Leprosy*).—This form commonly begins as smooth, reddish, yellowish, or brownish,

Fig. 108.—Leprosy. (Early case.)

bean-sized infiltrated macules (*lepra meculosa*), which may disappear, or after a variable duration develop into tubercles. The latter vary in size from a pea to a hazel-nut, are yellowish, reddish-brown, or bronze-tinted, and most commonly situated about the face. The forehead is particularly apt to be affected,

the thickening and the exaggeration of the folds of the skin producing the so-called leonine expression (*leontiasis*).

Leprous tubercles persist often for a long time. They may disappear by absorption or ulceration, the latter occurring

FIG. 109.—TUBERCULAR LEPROSY.—(*After Van Harlingen.*)

for the most part about the fingers and toes. The mucous membranes may be attacked early in the disease.

LEPRA ANÆSTHETICA (*Anesthetic Leprosy*).—This form is not infrequently preceded by hyperesthesia, pruritus, and

neuralgic pains. The first cutaneous manifestation consists usually of an irregular outbreak of blebs, which rupture and are followed by pigmentation. Instead of blebs there may develop erythematous spots of a bluish-red or reddish-brown color, later becoming yellowish or brownish. These spread by peripheral extension, at the same time healing in the center.

FIG. 110.—MUTILATION OF HANDS IN ANESTHETIC LEPROSY.—(*After Van Harlingen.*)

Over these areas there is at first hyperesthesia; later this gives way to anesthesia, so that the prick of a pin cannot be felt.

In advanced cases there may occur severe pains, paralyses, wasting of muscles, and loss of fingers and toes by absorption, ulceration, or gangrene (*lepra mutilans*).

Etiology.—Leprosy is caused by the invasion of the organism by the *bacillus leprœ*. Heredity, climate, soil, and mode of living act as predisposing causes.

The contagion may be affected through direct or mediate inoculation, the upper respiratory passages probably constituting a frequent avenue of entrance of the micro-organism.

Pathology.—The disease consists of a deposit of cells in the corium and subcutaneous tissue, similar to those seen in

FIG. 111.—ADVANCED CASE OF MIXED TUBERCULAR AND ANESTHETIC LEPROSY.

lupus and syphilis. The specific bacillus is found in the tubercles, infiltrations, lymphatic glands, nerves, etc.

Diagnosis.—Advanced cases of leprosy are easily recognized. The disease may be confounded with syphilis, morphea, vitiligo, and lupus. The occurrence of anesthesia and the history and course of the disease will usually enable one to make the diagnosis. In doubtful cases the microscope should be resorted to, with the view of discovering the bacilli in the affected tissues.

Prognosis.—The prognosis is not as unfavorable as formerly. Under appropriate treatment a proportion of cases will make symptomatic cures. The course is more rapidly unfavorable in the tubercular than in the anesthetic form.

Treatment.—Nutritious food, good hygiene, and removal to a healthful climate are important therapeutic measures.

The remedies which have proven most valuable in the treatment of leprosy are chaulmoogra oil and gurjun oil, used both internally and externally (in the tubercular variety), and strychnine in large doses (in the anesthetic form). The best results have followed the intramuscular use of chaulmoogra oil. The following formula may be used:

℞. Creosoti..... ♏i
Ol. Chaulmoogra..... ♏x-xxx
Ol. Olivæ..... ♏x-xxx
For each injection, three times a week.

These injections are quite painful. More recently the ethyl-esters of chaulmoogra have been elaborated for intravenous use. Chaulmoogra oil may also be taken by mouth in capsule form in the dose of 3 to 5 minims after each meal.

FRAMBŒSIA

Derivation.—Fr. *framboise*, a raspberry.

Synonyms.—Yaws; pian.

Definition.—Frambesia is an infectious disease, endemic in certain tropical countries, characterized by papules, tubercles, and tumors having the appearance of raspberries.

Symptoms.—The disease, which is preceded by prodromal constitutional symptoms, begins as small, pinhead- to pea-sized papules or tubercles, which resemble red currants or raspberries. These increase to the size of cherries, at the same time becoming flatter and studded with yellowish points. Ulceration occurs, with the discharge of a thin, fetid, yellowish

fluid. The disease is largely confined to tropical countries, and is observed chiefly on the west coast of Africa, Phillipine Islands, Ceylon, West Indies, etc.

The face, upper and lower extremities, and genitalia are usually affected.

The disease may last for months, and in debilitated individuals for years. Yaws gives a positive Wassermann reaction.

Treatment.—Arsphenamin or neo-arsphenamin is the sovereign treatment of the disease; one or two intravenous injections will in most cases effect a cure.

EPITHELIOMA

Synonyms.—Epithelial cancer; carcinoma epitheliale; rodent ulcer.

Symptoms.—Two principal varieties of epithelioma are recognized, the socalled basal-celled epithelioma which usually runs a benign course and rarely gives rise to metastasis, and the prickle-celled or squamous-celled type which is more malignant. Epithelioma may develop from keratoses, or moles or may arise from an otherwise apparently normal skin. There may be present small pearly nodules or superficial crusted ulcerations. The ulcerations tend readily to bleed. In the so-called *rodent ulcer* great local destruction may take place extending even to the bones. A form of deep cutaneous cancer also occurs in which large nodules and infiltrations may develop.

Diagnosis.—Epithelioma may be confounded with warts, with ulcerating syphiloderm, and lupus vulgaris.

The age of the patient, the occurrence of ulceration, the general appearance of the growth, the history, and the course will usually enable one to distinguish an epithelioma from a wart.

From syphiloderm, epithelioma may be differentiated as follows:

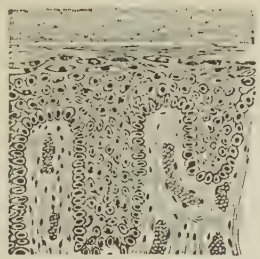


FIG. 112.—SQUAMOUS EPITHELIOMA.

FIG. 113.—CYLINDRIC-CELLED EPITHELIOMA.

FIG. 114.—SUPERFICIAL FLAT EPITHELIOMA.

Epithelioma	Tubercular Ulcerating Syphilide
1. Occurs usually in late life.	1. Occurs in middle and early life.
2. No history or concomitant signs.	2. History and concomitant signs of syphilis.
3. Evolution slow.	3. Evolution much more rapid.
4. Ulceration single.	4. Ulceration usually multiple.
5. Edges of ulcer hard and indurated. Discharge scanty bloody and stringy.	5. Edges of ulcer not indurated. Discharge abundant, yellowish, and creamy.
6. Pearly border often seen.	6. No such pearly border.
7. Yields only to destruction.	7. Heals under the use of iodids and mercury or salvarsan.
8. Wassermann reaction negative.	8. Wassermann reaction usually positive.

Fig. 115.—Epithelioma.

The differential diagnosis from lupus vulgaris will be found under that disease.

Prognosis.—Nearly all cases of epithelioma of the face may be cured if seen early enough and appropriately treated. In cases springing from "moles" destruction must be thorough. When the lesion encroaches upon the mucus border of the lip or of the eyelid there is greater likelihood of metastasis.

Treatment.—The treatment consists of thorough destruction of the diseased tissues. One of the best methods of accomplishing this end is by employing fulguration or electro-desiccation. For most superficial lesions the electro-cautery may be used. If in a convenient situation, the growth may be excised. The chemical pastes give often the most gratifying results. The arsenic and zinc chloride pastes, the formulæ of which are given in the section on lupus vulgaris may be recommended. Instead of the zinc chloride formula there mentioned, the following may be employed.

℞. Zinci Chloridi..... 75 parts
Zinc Stearat..... 25 parts

Sig.—Make into a thick paste with a little alcohol. The surrounding skin should be carefully protected. This is the most powerful and the most destructive of all of the caustic pastes.

Pyrogallol is less painful but acts much more slowly:

℞. Acidi pyrogallici..... ʒi
Cerat. resinæ..... ʒiii

The X-rays or radium will be found satisfactory in the treatment of many epitheliomata of the skin. (See section on X-rays.)

PAGET'S DISEASE OF THE NIPPLE

Synonym.—Malignant papillary dermatitis.

Definition.—Paget's disease is a malignant affection of the nipple and areola, characterized at first by an eczematoid

process, which later terminates in carcinoma of the skin with, at times, involvement of mammary gland.

Symptoms.—The disease attacks women usually between the ages of forty and sixty. But one breast is involved.

A typical case exhibits a sharply-defined, red, raw, granulating surface, copiously exuding a clear, viscid secretion. The infiltration present has been aptly likened to the feel of a button or large coin through a handkerchief. Burning, itching, and pain are usually severe. Cancerous involvement of the nipple and breast is the amost invariable outcome. A similar condition at times occurs in men upon the scrotum or other areas of the cutaneous surface.

Pathology.—Under the microscope there is visible a proliferation of cells of the mucous layer, prolongation of the rete pegs, formation of epithelial nests, dilatation of papillary blood-vessels, perivascular cell infiltration, and loss of the superficial epiderm.

A sharp line of demarcation separates the diseased tissue from the healthy border.

Diagnosis.—Paget's disease may be distinguished from eczema by the more advanced age of the patient, the sharp definition of the patch, the peculiar raw, granular appearance, the button-like infiltration, and the course of the disease.

Prognosis.—If early recognized and treated, cure may result.

Treatment.—If there is doubt as to the diagnosis, the part should be treated tentatively as an eczema. In superficial cases the X-rays have done well. In pronounced cases, the best and safest treatment is ablation of the entire breast.

SARCOMA

Derivation.—Σάρξ, flesh.

Definition.—Sarcoma is a malignant disease, characterized by variously sized, shaped, and colored tumors, occurring in

the skin and subcutaneous tissues either as primary or secondary growths.

Symptoms.—There are three chief varieties—the non-pigmented forms with single or multiple lesions, the melanotic or pigmented variety, and the multiple hemorrhagic type described by Kaposi. The last named is the least malignant and runs the longest course. The disease is characterized by pea- to hazel-nut-sized or larger, discrete, pigmented or

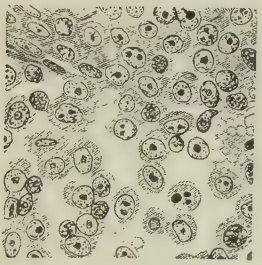


FIG. 116.—ROUND-CELL SARCOMA.

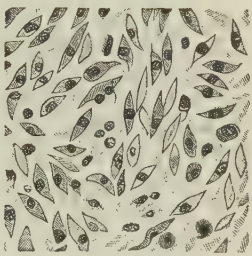


FIG. 117.—SPINDLE-CELLED SARCOMA.

non-pigmented nodules or tumors. The non-pigmented tumors are smooth, firm, elastic and reddish, violaceous, or brownish in color.

The multiple pigmented sarcoma (*melano-sarcoma*) begins as pinhead- to pea-sized, brownish, bluish, or blackish growths occurring most frequently upon the dorsum and sole of the foot and upon the hands. The nodules exhibit a marked tendency to bleed.

Prognosis.—The prognosis is unfavorable, nearly all cases terminating fatally.

Treatment.—Highly unsatisfactory. Ablation of the tumors by the knife is followed, as a rule, by recurrence.

Surgical treatment should be followed by the use of radium or the X-rays.

Hypodermic injections of Fowler's solution in the region of the growths have proven successful in several cases. The

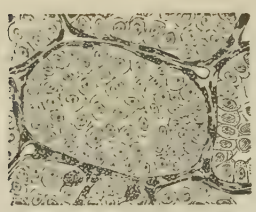


FIG. 118.—MELANOTIC SARCOMA.

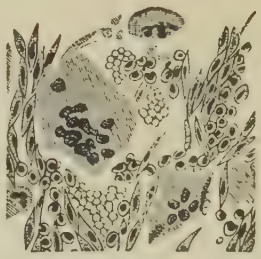


FIG. 119.—GIANT-CELLED SARCOMA.

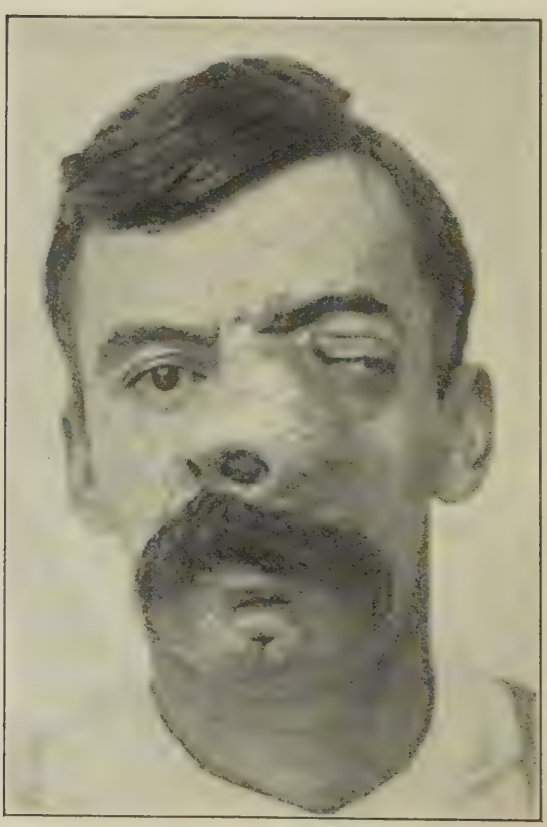


FIG. 120.—SARCOMA.

injection of Coley's fluid is recommended by many writers. The vigorous use of the X-rays or radium should be tried.

FIG. 121.—GRANULOMA FUNGOIDES OF 13 YEARS DURATION. (SCHAMBERG'S "SKIN DISEASES AND ERUPTIVE FEVER," COURTESY OF W. B. SAUNDERS CO., PUBLISHERS.)

GRANULOMA FUNGOIDES

Synonyms.—Mycosis fungoides; inflammatory fungoid neoplasm.

Definition.—A chronic, malignant, disease, characterized primarily by an eruption of an urticarial, eczematoid, or lichenoid appearance, and later by ulcerating fungoid tumors.

Symptoms.—In the early or "premycosic" stage the affection begins as an urticarial, erythematous, eczematous, or lichenoid eruption, accompanied by itching and burning.

After a duration of some months or years this is followed by flat or slightly elevated plaques of a pinkish-red color.

In the second stage there appear pea- to fist-sized, reddish or violaceous, shining tumors, which may develop from the above-described plaques, or may spring up independently. They at times develop with remarkable rapidity, and spontaneously disappear just as quickly. More commonly they undergo abscess formation and ulceration, and present the appearance of a mushroom or fungoid growth.

FIG. 122.—HIGHLY MAGNIFIED PORTION OF A MYCOSIS FUNGOIDES TUMOR, SHOWING CELLS EMBEDDED IN A DELICATE FIBROUS STROMA.—(*After Crocker.*)

Pathology.—Earlier writers regarded the condition as closely related to sarcoma, if not indeed a variety of the same. At present many look upon it as allied to leukemia of the skin, while others believe it to be a disease *sui generis*. In the early stages there is thickening of the epidermis, and a diffuse infiltration of lymphoid cells. In the tumor stage the epidermis is thinned from pressure. The cells in the corium exhibit a remarkable variety of form due to degenerative changes; numerous granules from cellular fragmentation are present.

Prognosis.—The result is almost invariably fatal.

Treatment.—In the relief of itching, quinin and antipyrin have been found of value. Some cases have done marvelously well under the use of the X-rays. Neoarsphenamin intravenously has also been recommended.

CLASS VIII.—ANOMALIES OF SECRETION OF THE GLANDS

HYPERIDROSIS

Derivation.—"Υπερ, in excess; ἱδρώς, sweat.

Synonyms.—Idrosis; hydrosis; ephidrosis; sudatoria; polydrosis; excessive sweating.

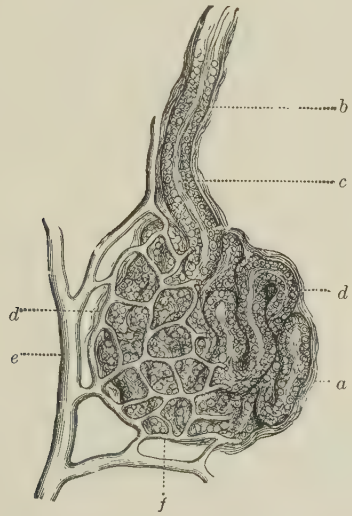


FIG. 123.—A NORMAL SWEAT-GLAND HIGHLY MAGNIFIED.—(*Neumann.*)

a. Sweat-coil with secreting epithelial cells. *b*. Sweat-duct. *c*. Lumen of duct. *d, d*. Connective-tissue capsule. *e*. and *f*. Arterial trunk and apillaries supplying the gland.

Definition.—Hyperidrosis is a functional disorder of the sweat-glands characterized by an excessive secretion of sweat.

The affection may be general or local.

Symptoms.—The hands, when affected, are cold and clammy. In severe cases the water drops from the palms, incapacitating the patient from all manual work. The feet, when affected, become tender, so that walking produces pain. The soles are reddened and the epidermis macerated.

Etiology.—General hyperidrosis results from faulty innervation. It may, however, be physiologic, as during violent muscular exertion. The local forms are probably due to some disturbance of the vasomotor apparatus.

Treatment.—In general hyperidrosis constitutional remedies are to be employed—belladonna or atropin, ergot, nux vomica, mineral acids, quinin, etc. Crocker speaks highly of sulphur, given in dram doses twice daily, for both general and local sweating. For the local forms the remedies are, for the greater part, to be applied to the affected regions. Upon the palms this condition is much more refractory to treatment than upon the soles. The following prescription will be found of great value in the treatment of sweating feet:

℞. Acid salicylici..... gr. xxx
Acidi borici..... ℥j
Lanolini,
Petrolati.....āā ℥ss M.

The feet ought not to be washed more than once a week. It is well also to strew boric acid in the stockings. Hebra's plan was to wrap up the feet in an ointment of ung. lithargyri (diachylon ointment), and continue the treatment for a fortnight. Another excellent method is to immerse the feet each night for 5 to 10 minutes in a 1–2000 hot solution of permanganate of potash.

All of these remedies will be found more efficient in sweating feet than in sweating hands.

To check sweating of the axillæ for a few hours apply a sponge soaked in very hot water. Solutions of aluminum acetate have a distinct influence upon the perspiration for some days.

The judicious use of the X-rays has been curative in certain cases of hyperiodrosis of the hands, feet or axillæ. The treatment should be carried out only by a physician skilled in the use of the X-rays.

BROMIDROSIS

Derivation.—βρῶμος, a stench.

Synonym.—Osmidrosis.

Definition.—Bromidrosis is a functional disorder of the sweat-glands characterized by sweat secretion of an offensive odor.

Symptoms.—The condition may be symptomatic, as in uremia, rheumatism, etc.

There is usually an excessive sweating, although the amount may be normal. The odor is often sufficient to unfit the sufferer for society.

Etiology.—Obscure. Usually occurs upon the feet of young persons.

Pathology.—The sweat is not offensive when secreted, but soon becomes so from the action of micro-organisms.

Treatment.—It is practically that of hyperidrosis.

Immersion of the feet daily in a 1–100° solution of permanganate of potash rapidly removes the odor.

ANIDROSIS

Derivation.—'A, privative, and ἱδρώς, sweat.

Synonym.—Decrease or absence of sweating.

Definition.—A disorder of the sweat-glands characterized by diminution or suppression of sweat.

Symptoms.—It may be symptomatic, as in diabetes, fevers, etc. It may also be due to faulty innervation. There may be slight diminution of sweat secretion, or total absence.

Treatment.—In congenital cases nothing is of avail. In acquired cases, one may employ massage, electricity, vapor and alkaline baths, etc.

CHROMIDROSIS

Derivation.—Χρώμα, color, and ἱδρώς, sweat.

Definition.—A disorder of the sweat-glands characterized by colored sweat.

Symptoms.—There are two forms—idiopathic and accidental (color due to certain substances taken into the system). The color in the idiopathic form is usually black or sepia. The orbital region is usually affected.

Accidental Forms.—Green sweat is found frequently in copper-workers. Red sweat, which occurs often in the axillæ, is due to the action of the bacterium prodigiosum, and is often associated with lepothrix.

Treatment.—The treatment is based upon broad general principles. For the parasitic forms, mercurial lotions may be employed.

URIDROSIS

Derivation.—Θῦρον, urine; ἱδρώς, sweat.

Synonym.—Sudor urinosus.

Definition.—A condition characterized by the excretion through the sweat-glands of constituents of the urine in considerable quantity.

Symptoms.—The sweat normally contains small quantities of urea. In suppression of the urine, as in Bright's disease, cholera, etc., urinary products are eliminated through the sweat-glands. There is a urinous odor to the skin, and sometimes a deposition of salts on the skin.

HEMATIDROSIS

Derivation.—Αἷμω, blood; ἱδρώς, sweat.

Synonym.—Bloody sweat.

Definition.—A condition characterized by hemorrhage from the sweat-pores.

Symptoms.—Very rare. Occurs in young hysteric women. Has been observed on the face, ears, umbilicus, hands and feet.

PHOSPHORIDROSIS

Derivation.—Φωσφόρος, phosphorus; ἱδρώς, sweat.

Definition.—A rare condition characterized by phosphorescent sweat. Has been observed after the ingestion of

phosphorus and of fish, but is probably due to a species of photobacterium.

SUDAMEN

Derivation.—*Sudor*, sweat.

Synonym.—Miliaria crystallina.

Definition.—An eruption characterized by the formation of numerous superficial, pinhead, transparent vesicles occurring during the course of febrile diseases.

Symptoms.—The vesicles are non-inflammatory. They have been aptly described as resembling "dew-drops." They are most abundant upon the trunk and neck, and disappear in the course of a few days.

Pathology.—The vesicles are due to a collection of sweat in the upper layers of the epidermis as a result of obstruction of the sweat-ducts.

Treatment.—The affection undergoes spontaneous involution.

MILIARIA

Derivation.—*Milium*, millet.

Synonyms.—Prickly heat; lichen tropicus; red gum; strophulus.

Definition.—A mild inflammatory affection, caused by obstruction of the sweat-ducts, characterized by the occurrence of small papules and vesicles at their mouths.

Symptoms.—The affection comes on suddenly, after profuse perspiration. The lesions are discrete, never tending to coalesce. Itching is usually present. The trunk is the seat of predilection. In children it is apt to be complicated by furunculosis.

Pathology.—Obstruction of sweat-ducts, with surrounding inflammation.

Treatment.—Prophylactic. Children should be lightly clad in thin woolens, and kept in cool places. Constipation should be avoided. Sedative lotions and dusting-powders

constitute the local treatment. The following is a useful combination.

℞. Acidi carbolici..... ℥xxx
Acidi borici..... ʒj
Zinci oxidi,
Pulv. calaminæ.....āā ʒiss
Glycerini..... f ʒij
Spts. vini rect..... f ʒij
Aquæ.....q. s. ad..... f ʒvj M.

Sig.—Sop on the skin *pro re nata*.

Or a dusting powder may be used:

℞. Magnes. carbonat.,
Acidi borici.
Pulv. amyli.....āā ʒij M.

An excellent method is to sop on a saturated solution of boric acid, and follow this with a dusting-powder. When the entire body is involved, bran, starch, or alkaline baths may be employed with good results.

HYDROCYSTOMA

Derivation.—Ἱδρώς, sweat.

Definition.—A condition characterized by the formation upon the face of firm, discrete, pinhead- to split-pea-sized vesicles, due to obstruction of the sweat-ducts.

Symptoms.—The lesions are usually confined to the face, although they may appear on the neck also. The vesicles are tense, with clear contents (acid in reaction), and a purplish color upon the periphery. The condition improves or disappears in winter, but is almost sure to recur in hot weather, Washer-women are prone to it.

Pathology.—The vesicles are due to the obstruction of sweat-ducts in the corium. As a result, a cystic dilatation of the duct occurs.

Treatment.—Those affected should avoid occupations that promote perspiration. Residence in a cool climate is emi-

nently desirable. The results of treatment are not very brilliant. Robinson advises friction with sapo mollis and water and puncturing the vesicles with a needle. The X-rays should be tried.

SEBORRHEA

Derivation.—*Sebum*, suet; ῥεω, to flow.

Synonyms.—Pityriasis, ichthyosis sébacé; eczema seborrhœicum.

Definition.—A disorder of the fat-producing glands characterized by an increased, decreased or altered secretion of sebum, producing an oily, crusted or scaly condition upon the skin.

Symptoms.—There are two forms—*seborrhœa oleosa;* and *seborrhœa sicca.*

Seborrhœa Oleosa.—This form manifests itself as an inordinate oiliness of the skin. The parts usually affected are the forehead, cheeks, and nose. The mouths of the follicles are dilated, and there is often an enlargement of the superficial blood-vessels. The face looks dirty and begrimed, owing to the adhesion to the skin of particles of dust.

Seborrhœa sicca manifests itself as an accumulation of yellow or grayish scales, occurring upon the scalp or non-hairy regions. When the face is involved, the eyebrows and beard are usually first affected.

Upon the scalp this condition is generally associated with falling of the hair.

Dandruff was formerly regarded as a seborrhea sicca, but Sabouraud's researches have separated these conditions. He calls dandruff *pityriasis capitis* and believes it to be parasitic in character.

The *smegma præputii* is probably a seborrhea; as a result of the decomposition of the secretion, balanitis sometimes develops.

Etiology.—The causation is obscure. The disease occurs most frequently at the age of puberty and the influence of the endocrine glands must be given consideration. It is more

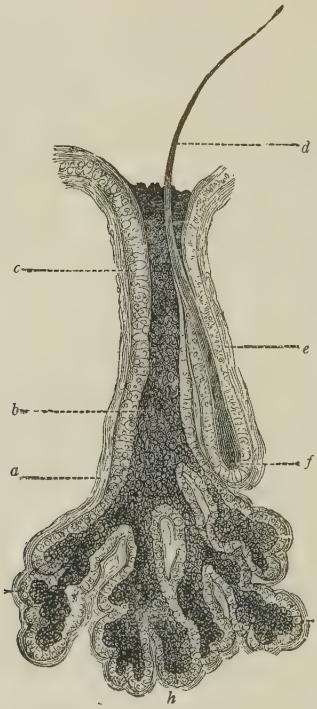


FIG. 124.—A NORMAL SEBACEOUS GLAND IN CONNECTION WITH A LANUGO HAIR. (*Neumann.*)

a. Connective tissue capsule. *b*. Fatty secretion. *c*, *h*. Fat-secreting cells. *d*. Root of lanugo hair. *e*. Hair sac. *f*. Hair shaft. *g*. Acini of sebaceous gland.

common in women than in men, and in dark-complexioned people than in blondes. It may be idiopathic, but is frequently met with in persons affected with tuberculosis, chlorosis, general debility, and gastro-intestinal disorders.

Diagnosis.—Oily seborrhea can scarcely be confounded with any other affection. Seborrhœa sicca is to be distinguished from psoriasis, eczema, erythematous lupus, and ringworm. These are all characterized by redness and more or less thickening.

Pathology.—There is an overaction of the sebaceous glands and sweat-glands, at times accompanied by a slight degree of inflammation. Some observers consider the affection as microorganismal in character.

Prognosis.—Favorable. Long-standing cases affecting the scalp lead to baldness.

Treatment.—*Constitutional.*—Tonics, such as arsenic, iron, strychnin, and quinin are often indicated. Duhring recommends calcium chlorid in doses of $\frac{1}{10}$ to $\frac{1}{15}$ of a grain. Gastro-intestinal troubles should receive appropriate treatment.

Local Treatment.—The indications are first to remove the crusts and scales, and then to use stimulating and astringent applications, with a view to favorably influencing the glandular secretions. Resorcin, sulphur, and salicylic acid are the three sovereign remedies.

To soften crusts upon the scalp:

℞. Acid salicylici ..... gr. xx
Ol. olivæ ..... f ℥iv

This may be followed by the use of the *tincture of green soap* to remove the epithelial debris. One of the following preparations may then be employed:

℞. Chrysarobini ..... gr. iii
Vaselini ..... ℥i
Ol. rosæ ..... ♏i
℞. Resorcin ..... ℥ij
Glycerini ..... f ℥i
Spts. vini rect.,
Spts. myrciæ (bay rum) ..... āā f ℥iij M.
Sig.—Shampoo head at night.

Upon nonhairy regions, or when there is but little hair upon the scalp, salves may be used:

℞. Sulph. præcip..... gr. xx-xxx
Petrolati..... ℥ss
Ol. bergamottæ..... ♏xx

Or—

℞. Acidi salicylici..... gr. x
Petrolati..... ℥ss

Ammoniated mercury, calomel, carbolic acid, and other remedies are also employed, but the foregoing will be found to give best results.

For oil seborrhea:

℞. Acidi borici..... gr. xxx-℥j
Spts. vini rect..... f ℥ij

Or—

℞. Resorcini..... ℥i
Acidi borici..... ℥i
Spts. vini recti.,
Aq. cologniensis.....āā f ℥iss
Aquæ q.s..... f ℥vi

ASTEATOSIS

Derivation.—A, private; *μτέαρ*, fat.

Definition.—Asteatosis is a condition characterized by a diminution or suppression of the sebaceous secretion.

Symptoms.—The skin is harsh and dry and frequently desquamating.

Idiopathic cases are rare. The condition often accompanies, psoriasis, leprosy, ichthyosis prurigo, scleroderma, and lichen ruber.

Treatment.—Inunctions of fatty substances.

CLASS IX.—NEUROSES

HYPERESTHESIA

Hyperesthesia is a condition characterized by an increased, sensibility of the skin. This may occur in various functional and organic nervous diseases, such as hysteria, leprosy, etc.

DERMATALGIA

Synonyms.—Neuralgia of the skin; dermalgia; rheumatism of the skin.

Definition.—Dermatalgia is characterized by pain confined to the skin, not the result of structural change.

Symptoms.—The symptoms are entirely subjective. The surface of the skin is normal. The pain is spontaneous, but is increased by pressure, friction of clothing, etc.

Small, circumscribed areas, particularly hairy regions, are affected. The affection occurs most frequently in adult females.

Etiology.—Rheumatism is looked upon as causative in most cases. It may also occur in hysteria and chlorosis.

Treatment.—General treatment is to be directed to the cause. Locally, counterirritants and the galvanic current are of value.

ANESTHESIA

Anesthesia is characterized by impairment or entire loss of cutaneous sensibility. It is usually circumscribed, and is observed in functional and organic nerve diseases. It is a characteristic feature of anesthetic leprosy.

PRURITUS

Derivation.—*Prurire*, to itch.

Definition.—Pruritus is a functional cutaneous disease characterized by itching, without structural alteration of the skin.

Symptoms.—Itching is the sole symptom. It may partake of a tickling, pricking, crawling, or tingling character. The patient is invariably prompted to scratch and rub the affected part. As a result of long-continued scratching, excoriations, papules, and thickening of the skin may result. The itching is paroxysmal, and nearly always worse at night.

Pruritus may be general (*pruritus universalis*) or local (*pruritus localis*). The regions commonly attacked in the latter variety are the anus (*pruritus ani*), the vulva, (*pruritus vulvæ*, and the scrotum (*pruritus scroti*).

Pruritus is far more common in advanced life (*pruritus senilis*).

The form of pruritus occurring during the cold months of the year is designated *pruritus hiemalis*.

Etiology.—Generalized pruritus may be caused by Bright's disease, diabetes, Hodgkin's disease, hepatic affections, digestive and intestinal disturbances, gout, nervous disorders, pregnancy, uterine and ovarian disease, senility, ingestion of certain medicaments, etc.

Pruritus vulvæ is not infrequently produced by irritating vaginal discharges. It is a common symptom in diabetes. Pruritus ani may be caused by hemorrhoids, fissures, seatworms, etc., or may be due to gout or to some other constitutional condition.

Diagnosis.—Pediculosis corporis may usually be differentiated from pruritus by the localization of the scratch marks and the presence of the parasites in the garments.

Prognosis.—Guarded. Depends upon the nature and removability of the cause.

Treatment.—The cause must be assiduously investigated and treated.

Internal Treatment.—Diet and hygiene should be carefully regulated. The various visceral diseases must receive appropriate treatment. In obscure cases the mineral acids, quinin, strychnin, atropin, gelsemium, pilocarpin, and arsenic may

be variously tested. Foreign protein injections will give temporary relief and at times permanent.

Local Treatment is designed to give merely temporary relief from the distressing itching.

The following are some of the best antipruritic lotions:

(1)	Acidi carbolici	℥j-℥iij
	Glycerini	℥ij
	Spts. vini rect	f ℥iv
	Aquæ q. s. ad	Oj
(2)	Liq. carbonis detergens	℥ss-℥iij
	Aquæ	Oj
(3)	Thymol	℥ss-℥ij
	Liq. potassæ	℥ij
	Glycerini	℥ss
	Aquæ	Oj

For pruritus vulvæ one may use: (1) Saturated solution of boric acid; (2) compound tincture of benzoin (painted on), (3) vaginal injections of alum, zinc sulphate, etc. Autogenous vaccines containing the streptococcus are sometimes curative in anal and vaginal pruritus.

For pruritus ani:

(1)	Acidi carbolici	gr. x-xx
	Hydrag. chlor. mit	gr. xx-xxx
	Ung. zinci oxidi	℥j
(2)	Hydrarg. chlor. corrosiv	gr. ii-iv
	Aquæ	f ℥viij
(3)	Acidi carbolici	gr. x-xxv
	Picis liquidæ	f ℥j-f℥ij
	Lanolin	℥j

ACTINOTHERAPY AND RADIOTHERAPY

Actinotherapy. In 1896, Dr. Niels R. Finsen, of Copenhagen, published a report upon the use of concentrated actinic rays of light in the treatment of diseases of the skin, particularly, lupus vulgaris. The therapeutic virtues of light have since been confirmed by numerous observers. Both the

light from the sun and from a powerful arc lamp may be employed, although the uncertainty attending the use of the solar rays, and the equal or greater efficiency of those from the latter source, have led to the almost exclusive adoption of the electric arc lamp in the application of this treatment.

The rationale of the so-called Finsen light treatment is based upon three propositions: (1) the property of concentrated rays of light to destroy bacteria; (2) the power of light rays, under certain conditions, to penetrate living tissues, and (3) their ability to bring about certain structural changes.

The Finsen apparatus consists of a powerful arc lamp, armed with telescopic tubes with condensing lens of rock crystal or quartz, between which are compartments for distilled and flowing water to absorb the heat rays. Glass lenses cannot be employed, for they absorb too large a proportion of the actinic or chemical rays which constitute the chief factor in tne production of the therapeutic effects.

The area of cutaneous surface to be treated must be rendered anæmic, so that the blood contained in the skin shall not act as a red screen and filter out the chemical rays. This is accomplished by the use of compressors, which consist of two rock crystal lenses set into a frame so that running water may flow between them. These compressing lenses are of different sizes and shapes, which render them adaptable to different parts of the body. They are held by an attendant, or are applied firmly to the surface by means of elastic bands. The area to be treated is brought just within the focal point of the distal condensor of the tube, the light covering a surface of a half to three-quarters of an inch. Depending upon the effect desired, the seance lasts from twenty minutes to one hour or longer. In from 8 to 24 hours, an inflammatory reaction is induced in the area treated, varying from an erythema to the production of blebs and swelling. The frequency of the treatments and their duration depend upon the nature of the disease, the extent of the cutaneous involve-

ment and individual susceptibility. For deep-seated conditions, such as lupus vulgaris, the seance is usually an hour or more. Other patches may be treated on consecutive days. The treated parts are covered with a boric acid or zinc ointment, and are permitted to heal. Such areas may be treated again, if necessary, at the end of two or three weeks.

Actinotherapy has found its chief field of usefulness in *lupus vulgaris*, for this rebellious disease is caused by the presence of tubercle bacilli in the skin, and these may be destroyed by concentrated rays of light. A large percentage of the cases treated in Copenhagen have been cured by the Finsen treatment; the scars are smooth, as a rule, and the general cosmetic effect excellent. Lupus cases exhibiting much pigmentation, fibrous thickening, or involvement of the mucous membranes are distinctly less favorable. It is also difficult or impossible to treat lupus ulcerations by this means, as the necessary pressure cannot be made. These cases can be treated with better results by means of the X-rays. The mercury vapor lamp of the Kromayer type (water cooled) or the larger air cooled apparatus is now much more frequently employed than the Finsen type of lamp.

Alopecia areata has been treated with concentrated actinic light and a considerable portion of the cases thus treated have been cured, but it must be remembered that this affection disappears under many and varied therapeutic measures, and not infrequently spontaneously.

Vascular nævi have been reported by Finsen and other observers to have been greatly improved by actinotherapy, but complete cures do not appear to have been achieved. Those cases in which the cutaneous blood vessels are not greatly enlarged, as in the port wine stain, give the best chances of success.

Acne and various subacute inflammatory dermatoses have been treated with light rays with alleged good results; this method of treatment has the advantage that it can do no harm.

The small area that can be treated by the Finsen method, and, consequently, the large number of treatments required and the expense of operation of the apparatus, all tend to circumscribe the field of usefulness of this method.

Certain modifications of the large Finsen lamp have been devised, which obviate some of its disadvantages: The Lortet and Genoud type of lamp is much smaller and simpler than the lamp used by Finsen, and permits of a larger area being treated at each sitting. The patient is brought much closer to the arc, the skin being pressed against the quartz lenses, and receiving the rays before they diverge. A considerable degree of inflammatory reaction may be produced after an exposure from 20 to 30 minutes. The rays, however, penetrate but slightly into the skin, and the reaction is merely a superficial one. While these lamps may be of utility in treating inflammatory dermatoses, they are of little value in the treatment of the nodules of lupus vulgaris. The Kromayer mercury vapor quartz lamp is useful in the treatment of alopecia areata acne, and in superficial inflammatory diseases. This lamp may also be used with compression lenses in the treatment of port wine stain—5 to 20 minute exposures being given. A larger mercury vapor quartz lamp has been devised for the treatment of the scalp. It is of distinct value in the treatment of alopecia areata and in defluvium capillorum. The duration of exposure at 10 inches distance varies from 4 to 20 minutes for the latter condition.

THE ROENTGEN, OR X-RAYS

In 1895, Professor Roentgen, of Würtzburg, found that when a Crookes tube was excited by an electric current of high potential, peculiar rays were given off which he modestly designated X-rays because of their unknown character. These rays were at first employed alone for diagnostic purposes, but the accidental production of structural changes in the skin led to their trial, in cutaneous diseases, by Freund and Schiff,

of Vienna. X-ray treatment has been accorded an important place in the therapeutics of skin disorders.

X-rays may be generated from an induction coil run either by a storage battery or by ordinary current from a dynamo or a static machine may be used. Within recent years the interruptorless transformers have come into general use and are superior to the old induction coils.

FIG. 125.—EXTENSIVE LUPUS VULGARIS, OF SIX YEARS' DURATION, IN A PATIENT THIRTY YEARS OLD.

X-ray tubes have different properties, depending chiefly upon the degree of vacuum in the tube. A hard tube, or one of high vacuum, offers great resistance to the passage of the electric current, and gives off rays which penetrate to considerable depth, and exert but a minimum influence upon the superficial tissues. A soft tube, or one of low vacuum, on the other hand, give off rays which do not penetrate to great depth, but exert a maximum influence upon the superficial

tissues. Intermediate tubes, termed "medium soft" and "medium hard" tubes, have varying grades of penetration, proportionate to the degree of the vacuum.

Within recent years a great improvement in X-ray tubes has been introduced in the form of the Coolidge tube, which can be regulated to give off hard and soft rays as desired.

FIG. 126.—HEALED LUPUS VULGARIS.
Same patient as Fig. 125.

The dosage of the X-rays depends upon, (1) the milliamperage or the amount of current run into the tube; (2) the quality of the tube as determined by the voltage or spark-gap; (3) the distance of the tube from the patient; (4) the duration of the exposure, and (5) the frequency of the treatments.

MacKee gives us a skin unit (epilation or suberythema dose) three minutes at six inch gap, with 2 m.a. of current, and eight inches from the anode. This is represented by the following formula:

$$\frac{6 \times 3 \times 2}{8 \times 8} = \frac{36}{64}$$

The spark gap time and current strength are direct factors. On the other hand the intensity of the rays is inversely as the *square* of the distance. Each machine must however, be biologically tested to determine the skin unit.

Upon the first sign of an erythema, treatment should be suspended. In the treatment of acne other approved methods of treatment should be employed, for the less the number of X-ray treatments necessary the greater is the assurance of preservation of the integrity of the normal texture of the skin. The fact should be emphasized that excessive X-ray irradiation may lead to atrophy of various elements of the skin, producing punctiform or stellate scarring, or unnatural dryness and wrinkling. The treatment should therefore, only be carried out by one skilled in the technique.

Action of the X-rays in Cutaneous Diseases

The mode of action of the Roentgen rays appears to be quite complex.

They stimulate and alter the function and structure of living cells; doubtless, as a result of this, up to a certain degree of irradiation, the vitality and resisting power of tissues are increased, and the invasion of bacteria prevented or the bacteria destroyed.

The bactericidal properties of the X-rays are not due to a direct influence upon the micro-organisms themselves, but appear to result from a stimulation of the bactericidal power of the body cells. The anti-pyogenic influence of the X-rays is well established. When carried beyond the point of

stimulation, the X-rays produce degeneration, atrophy and necrosis. Cells of low vitality, such as tumor cells, suffer first, and later, highly specialized tissues, such as blood-vessels, hair-follicles, and the sweat and sebaceous glands. The X-rays are also analgesic, and capable of lessening pain and itching.

The cutaneous diseases in which the X-rays have been found to be useful are:

1. New Growths.	
Epithelioma, particularly of the superficial types. Lupus vulgaris and verrucose tuberculides.	Action chiefly due to breaking down of tumor cells.
Sarcoma.	
Mycosis fungoides.	
Blastomycosis cutis.	
Keloid and hypertrophic scars.	
2. Follicular and Glandular Affections	
Acne	Action due, at least in part, to atrophy of the glands and follicles.
Sycosis	
Hyperidrosis	
Hypertrichosis	
3. Inflammatory Diseases.	
Chronic eczema	Action due to physical and chemical stimulation of cells, and resorption of cell infiltrates.
Recurrent vesicular eczema	
Psoriasis	
Lichen planus, etc.	
4. Parasitic Affections.	
Favus	Action largely due to depilation and extrusion of parasitic fungi.
Tinea Tonsurans, etc.	
5. Cutaneous Neuroses.	
Pruritis ani	Action due to analgesic influence of rays.
Pruritis vulvæ, etc.	
Dermatalgia	

The various *new growths* may be treated vigorously, provided the surrounding healthy integument is thoroughly protected by similar devices.

Acne, sycosis, eczema, psoriasis, etc., should be treated mildly and with great care, particularly when irradiation of the face is carried out.

Hypertrichosis is one of the most difficult of all conditions to treat, and requires the greatest degree of skill. It is obvious that to produce an atrophy of the hair papillæ, without causing an atrophy of other elements of the dermic architecture, requires the nicest adjustment of the rays. Freund, of Vienna, effects a falling of the hair in twenty treatments, and then prevents a return of the hair by supplementary courses of treatment every four to six weeks, until a year and a half elapsed. At the end of this time, he states a permanent cure is effected. This condition warrants the use of the X-rays only when the hypertrichosis constitutes a real deformity. The treatment is most difficult and should only be essayed by an expert. Indeed, owing to liability to wrinkling and enlargement of blood vessels, many of the best authorities have abandoned the use of the X-rays in hypertrichosis.

Favus and *ring worm of the scalp* have been successfully treated with the X-rays. Sabouraud, of Paris, demonstrated that tinea tonsurans could be cured in a much shorter period by roentgen ray treatments than by any other means. A loss of hair over the disease area is effected by a single exposure, the dosage being carefully determined by various accurate measurements. Experience has proven the X-rays to be the best method of treatment.

TREATMENT BY REFRIGERATION

LIQUID AIR

Liquid air, which has a freezing point of about 185° C. below zero, has been used in the treatment of certain diseases of the skin. The difficulty of obtaining it, and more particularly, of preserving it has greatly restricted its use.

CARBON DIOXID

The freezing point of solid carbon dioxid is about 80° C. below zero. Applied to the skin it produces according to the duration of exposure and pressure, varying effects from an erythema to necrosis.

Carbon dioxid in gaseous form is supplied in iron cylinders such as are used for the carbonation of soda water. The gas is allowed to flow from the nozzle into a glove finger or chamois bag tied about the same. A chalk-like mass of condensed carbon dioxid snow is obtained which may be pared down to the size and shape desired. Pressure is made upon the skin for periods varying from 10 seconds to a minute, the average being 30 seconds. Applications may be repeated after all evidence of inflammation has subsided.

Therapeutic Indications.—Lupus erythematosus, is commonly much improved, and occasionally a disappearance of the patches is effected. Under moderate pressure the application should vary, according to the thickness of the patch, between five and thirty seconds. In acute cases less vigorous methods of treatment should be employed. The vascular patches are less favorable for this procedure than the circumscribed, thickened plaques.

In *vascular nevi* particularly those of small size, refrigeration with carbon dioxid constitutes one of the best methods of treatment. The duration of the application varies between fifteen and thirty seconds; in infants between ten and twenty seconds. Hypertrophic and cavernous angiomata give much better results than flat nevi. Several applications are often necessary; the resultant scar is smooth and not disfiguring.

In large *hypertrophic nevi*, say the size of the palm of the hand, a flattening of the growth and a lessening of the coloration are often achieved, but complete cure is rare.

Port-wine stains are at times benefited by this treatment. In a man under my care, there was a reduction of about 50

per cent. in the intensity of the discoloration. Cure however is not effected.

In *pigmented nevi* carbon dioxid constitutes the best method of treatment at our command. Even when the nevus is covered with hair, successful results are often obtained. The application in children is from ten to thirty seconds, and in adults twenty to forty seconds. As a rule, little or no scarring is left.

Moles and *warts* may be removed in a similar manner.

In *senile* and *X-ray keratoses* excellent results are frequently achieved.

Refrigeration has also been employed in the treatment of lupus vulgaris, epithelioma, circumscribed eczema, lichen planus, etc., but for these conditions there are more eligible methods of treatment.

THE USE OF VACCINES OR BACTERINS

The bactericidal power of the blood against certain organisms can be increased by the injection of a proper quantity of these germs grown in culture and then killed by heat or other methods. Bacterial injections may be recovered from the patient (autogenous vaccines), or stock vaccines may be employed. It is important not to employ too large an initial dose; the dose may be gradually increased. Injections may be given about once a week.

The treatment is of value in furunculosis and carbunculosis, and at times in sycosis vulgaris, acne, pustular dermatitis, septic ulcers, lupus vulgaris, etc. Except in the first two conditions named the results may be characterized as uncertain; in some cases they are brilliant, and in others entirely disappointing.

Boils.—The treatment of boils with bacterial injections is the most scientific, rational, and on the whole, successful of any method. One may begin with the injection of 100,000,000 staphylococcus aureus or mixed staphylococcus emulsion.

Weekly injections should be given, the dose being increased until 500,000,000 or 1,000,000,000 organisms is reached. One to ten injections will usually effect a cure.

Sycosis vulgaris is occasionally cured by injections of staphylococci emulsions. In most instances, however, the treatment produces merely an improvement, and other therapeutic methods must be conjoined.

In *acne* the best results are obtained by injecting the staphylococcus with the so-called acne bacillus and the colon bacillus, preferably derived from the patient's own feces. Many cases have been reported in which improvement or cure has been achieved but in most cases the treatment is disappointing. It is, however, well worth a trial in obstinate cases.

Staphylococcic injections are a valuable aid in the treatment of septic ulcers and pustular dermatitis.

In *lupus vulgaris* tuberculin is a useful auxiliary to other methods of treatment, but results are too slow and uncertain to rely upon its use alone.

Time and future study will increase our knowledge of this relatively new therapy, and will enable us more accurately to estimate its value and determine its limitations.

Foreign Protein Injections.—The intravenous injection of foreign proteins is of value in certain chronic and rebellious dermatoses. I have found such treatment useful in psoriasis, and in pruritus and other itching dermatoses, etc. The exact foreign protein employed does not appear to be of vital importance. The protein may be vegetable or bacterial in nature. I have employed chiefly combinations of the typhoid bacillus and the paratyphoid (killed to be sure). The dose should be sufficient to produce a reaction characterized by chill and brief rise of temperature. Ten million typhoid bacillus with 25 million para typhoid, constitutes an average initial injection. The dose may be repeated in from 5 to 7 days. Milk protein and auto-serum injections give rise to less constitutional reaction.

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